FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO
HFOTCO LLC

AUTHORIZING THE OPERATION OF
Houston Fuel Oil Terminal
Special Warehousing and Storage

LOCATED AT
Harris County, Texas
Latitude 29° 45' 0" Longitude 95° 6' 10"
Regulated Entity Number: RN100223445

This permit is issued in accordance with and subject to the Texas Clean Air Act (TCAA), Chapter 382 of the Texas Health and Safety Code and Title 30 Texas Administrative Code Chapter 122 (30 TAC Chapter 122), Federal Operating Permits. Under 30 TAC Chapter 122, this permit constitutes the permit holder's authority to operate the site and emission units listed in this permit. Operations of the site and emission units listed in this permit are subject to all additional rules or amended rules and orders of the Commission pursuant to the TCAA.

This permit does not relieve the permit holder from the responsibility of obtaining New Source Review authorization for new, modified, or existing facilities in accordance with 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification.

The site and emission units authorized by this permit shall be operated in accordance with 30 TAC Chapter 122, the general terms and conditions, special terms and conditions, and attachments contained herein.

This permit shall expire five years from the date of issuance. The renewal requirements specified in 30 TAC § 122.241 must be satisfied in order to renew the authorization to operate the site and emission units.

Permit No: O1093 Issuance Date: May 3, 2011

For the Commission

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General Terms and Conditions

The permit holder shall comply with all terms and conditions contained in 30 TAC § 122.143 (General Terms and Conditions), 30 TAC § 122.144 (Recordkeeping Terms and Conditions), 30 TAC § 122.145 (Reporting Terms and Conditions), and 30 TAC § 122.146 (Compliance Certification Terms and Conditions).

In accordance with 30 TAC § 122.144(1), records of required monitoring data and support information required by this permit, or any applicable requirement codified in this permit, are required to be maintained for a period of five years from the date of the monitoring report, sample, or application unless a longer data retention period is specified in an applicable requirement. The five year record retention period supersedes any less stringent retention requirement that may be specified in a condition of a permit identified in the New Source Review Authorization attachment.

If the permit holder chooses to demonstrate that this permit is no longer required, a written request to void this permit shall be submitted to the Texas Commission on Environmental Quality (TCEQ) by the Responsible Official in accordance with 30 TAC § 122.161(e). The permit holder shall comply with the permit's requirements, including compliance certification and deviation reporting, until notified by the TCEQ that this permit is voided.

The permit holder shall comply with 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new construction or modification of emission units located in the area covered by this permit.

All reports required by this permit must include in the submittal a cover letter which identifies the following information: company name, TCEQ regulated entity number, air account number (if assigned), site name, area name (if applicable), and Air Permits Division permit number(s).

Special Terms and Conditions:

Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting

1. Permit holder shall comply with the following requirements:

   A. Emission units (including groups and processes) in the Applicable Requirements Summary attachment shall meet the limitations, standards, equipment specifications, monitoring, recordkeeping, reporting, testing, and other requirements listed in the Applicable Requirements Summary attachment to assure compliance with the permit.

   B. The textual description in the column titled "Textual Description" in the Applicable Requirements Summary attachment is not enforceable and is not deemed as a substitute for the actual regulatory language. The Textual Description is provided for information purposes only.

   C. A citation listed on the Applicable Requirements Summary attachment, which has a notation [G] listed before it, shall include the referenced section and subsection for all commission rules, or paragraphs for all federal and state regulations and all subordinate paragraphs, subparagraphs and clauses, subclauses, and items contained within the referenced citation as applicable requirements.

D. When a grouped citation, notated with a [G] in the Applicable Requirements Summary, contains multiple compliance options, the permit holder must keep records of when each compliance option was used.

E. Emission units subject to 40 CFR Part 63, Subparts Y or ZZZZ as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter 113, Subchapter C, § 113.300 or § 113.1090 respectively, which incorporate the 40 CFR Part 63 Subparts by reference.

F. For the purpose of generating emission reduction credits through 30 TAC Chapter 101, Subchapter H, Division 1 (Emission Credit Banking and Trading), the permit holder shall comply with the following requirements:

(i) Title 30 TAC § 101.302 (relating to General Provisions)

(ii) Title 30 TAC § 101.303 (relating to Emission Reduction Credit Generation Certification)

(iii) Title 30 TAC § 101.304 (relating to Mobile Emission Reduction Credit Generation and Certification)

(iv) Title 30 TAC § 101.305 (relating to Emission Reductions Achieved Outside the United States)

(v) Title 30 TAC § 101.309 (relating to Emission Credit Banking and Trading)

(vi) The terms and conditions by which the emission limits are established to generate the reduction credit are applicable requirements of this permit

G. The permit holder shall comply with the following 30 TAC Chapter 101, Subchapter H, Division 3 (Mass Emission Cap and Trade Program) Requirements:

(i) Title 30 TAC § 101.352 (relating to General Provisions)

(ii) Title 30 TAC § 101.353 (relating to Allocation of Allowances)

(iii) Title 30 TAC § 101.354 (relating to Allowance Deductions)

(iv) Title 30 TAC § 101.356 (relating to Allowance Banking and Trading)

(v) Title 30 TAC § 101.358 (relating to Emission Monitoring and Compliance Demonstration)

(vi) Title 30 TAC § 101.359 (relating to Reporting)

(vii) Title 30 TAC § 101.360 (relating to Level of Activity Certification)

(viii) The terms and conditions by which the emission limits are established to meet or exceed the cap are applicable requirements of this permit

2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):

   A. Title 30 TAC § 101.1 (relating to Definitions), insofar as the terms defined in this section are used to define the terms used in other applicable requirements

   B. Title 30 TAC § 101.3 (relating to Circumvention)

   C. Title 30 TAC § 101.8 (relating to Sampling), if such action has been requested by the TCEQ

   D. Title 30 TAC § 101.9 (relating to Sampling Ports), if such action has been requested by the TCEQ

   E. Title 30 TAC § 101.10 (relating to Emissions Inventory Requirements)

   F. Title 30 TAC § 101.201 (relating to Emission Event Reporting and Recordkeeping Requirements)

   G. Title 30 TAC § 101.211 (relating to Scheduled Maintenance, Start-up, and Shutdown Reporting and Recordkeeping Requirements)

   H. Title 30 TAC § 101.221 (relating to Operational Requirements)

   I. Title 30 TAC § 101.222 (relating to Demonstrations)

   J. Title 30 TAC § 101.223 (relating to Actions to Reduce Excessive Emissions)

3. Permit holder shall comply with the following requirements of 30 TAC Chapter 111:

   A. Visible emissions from stationary vents with a flow rate of less than 100,000 actual cubic feet per minute and constructed after January 31, 1972 that are not listed in the Applicable Requirements Summary attachment for 30 TAC Chapter 111, Subchapter A, Division 1 , shall not exceed 20% opacity averaged over a six-minute period. The permit holder shall comply with the following requirements for stationary vents at the site subject to this standard:

      (i) Title 30 TAC § 111.111(a)(1)(B) (relating to Requirements for Specified Sources)

      (ii) Title 30 TAC § 111.111(a)(1)(E)

      (iii) Title 30 TAC § 111.111(a)(1)(F)(i), (ii), (iii), or (iv)

      (iv) For emission units with vent emissions subject to 30 TAC § 111.111(a)(1)(B), complying with 30 TAC § 111.111(a)(1)(F)(ii), (iii), or (iv), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146. These periodic monitoring requirements do not apply to vents that are not capable of producing visible emissions such as vents that emit only colorless VOCs; vents from non-fuming liquids; vents that provide passive ventilation, such as plumbing vents; or vent emissions from any

other source that does not obstruct the transmission of light. Vents, as specified in the "Applicable Requirements Summary" attachment, that are subject to the emission limitation of 30 TAC § 111.111(a)(1)(B) are not subject to the following periodic monitoring requirements:

(1) An observation of stationary vents from emission units in operation shall be conducted at least once during each calendar quarter unless the emission unit is not operating for the entire quarter.

(2) For stationary vents from a combustion source, if an alternative to the normally fired fuel is fired for a period greater than or equal to 24 consecutive hours, the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are present. If such period is greater than 3 months, observations shall be conducted once during each quarter. Supplementing the normally fired fuel with natural gas or fuel gas to increase the net heating value to the minimum required value does not constitute creation of an alternative fuel.

(3) Records of all observations shall be maintained.

(4) Visible emissions observations of emission units operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of emission units operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions observations shall be made during times when the activities described in 30 TAC § 111.111(a)(1)(E) are not taking place. Visible emissions shall be determined with each stationary vent in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each stationary vent during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(5) Compliance Certification:

  (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(1) and (a)(1)(B).

  (b) However, if visible emissions are present during the observation, the permit holder shall either list this

occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(1)(F) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

(c) Some vents may be subject to multiple visible emission or monitoring requirements. All credible data must be considered when certifying compliance with this requirement even if the observation or monitoring was performed to demonstrate compliance with a different requirement.

B. Certification of opacity readers determining opacities under Method 9 (as outlined in 40 CFR Part 60, Appendix A) to comply with opacity monitoring requirements shall be accomplished by completing the Visible Emissions Evaluators Course, or approved agency equivalent, no more than 180 days before the opacity reading.

C. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:

(i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)

(ii) Sources with an effective stack height (h_e) less than the standard effective stack height (H_e), must reduce the allowable emission level by multiplying it by $[h_e/H_e]^2$ as required in 30 TAC § 111.151(b)

(iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)

(iv) Title 30 TAC § 111.205 (relating to Exception for Fire Training)

4. Permit holder shall comply with the following 30 TAC Chapter 115, Subchapter C requirements:

A. The permit holder shall comply with the annual reporting requirements under 30 TAC § 115.247(2) for motor vehicle fuel dispensing facilities exempt from Stage II.

5. The permit holder shall comply with the following requirements of 30 TAC Chapter 115, Subchapter F, Division 3, Degassing of Storage Tanks, Transport Vessels and Marine Vessels:

A. For degassing of stationary VOC storage tanks, the permit holder shall comply with the following requirements:

(i) Title 30 TAC § 115.541(a) - (c) (relating to Emission Specifications)

(ii) Title 30 TAC § 115.541(f) (relating to Emission Specifications), for floating roof storage tanks

(iii) Title 30 TAC § 115.542(a) and (a)(1), (a)(2), (a)(3) or (a)(4) (relating to Control Requirements). Where the requirements of 30 TAC Chapter 115, Subchapter F contain multiple compliance options, the permit holder shall keep records of when each compliance option was used.

(iv) Title 30 TAC § 115.542(b) - (d), (relating to Control Requirements)

(v) Title 30 TAC § 115.543 (relating to Alternate Control Requirements)

(vi) Title 30 TAC § 115.544(a)(1) and (a)(2) (relating to Inspection, Monitoring, and Testing Requirements), for inspections

(vii) Title 30 TAC § 115.544(b) (relating to Inspection, Monitoring, and Testing Requirements), for monitoring

(viii) Title 30 TAC § 115.544(b)(1) and (b)(2) (relating to Inspection, Monitoring, and Testing Requirements), for monitoring of control devices

(ix) Title 30 TAC § 115.544(b)(2)(A) - (J) (relating to Inspection, Monitoring, and Testing Requirements), for monitoring (as appropriate to the control device)

(x) Title 30 TAC § 115.544(b)(3), (b)(4) and (b)(6) (relating to Inspection, Monitoring, and Testing Requirements), for VOC concentration or lower explosive limit threshold monitoring

(xi) Title 30 TAC § 115.544(c), and (c)(1) - (c)(3) (relating to Inspection, Monitoring, and Testing Requirements), for testing of control devices used to comply with 30 TAC § 115.542(a)(1)

(xii) Title 30 TAC § 115.545(1) - (7), (9) - (11) and (13) (relating to Approved Test Methods)

(xiii) Title 30 TAC § 115.546(a), (a)(1) and (a)(3) (relating to Recordkeeping and Notification Requirements), for recordkeeping

(xiv) Title 30 TAC § 115.546(a)(2) and (a)(2)(A) - (J) (relating to Recordkeeping and Notification Requirements), for recordkeeping (as appropriate to the control device)

(xv) Title 30 TAC § 115.546(a)(4) (relating to Recordkeeping and Notification Requirements), for recordkeeping of testing of control devices used to comply with 30 TAC § 115.542(a)(1)

(xvi) Title 30 TAC § 115.546(b) (relating to Recordkeeping and Notification Requirements), for notification

(xvii) Title 30 TAC § 115.547(4) (relating to Exemptions)

6. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 60, unless otherwise stated in the applicable subpart:

A. Title 40 CFR § 60.7 (relating to Notification and Recordkeeping)

B. Title 40 CFR § 60.8 (relating to Performance Tests)

C. Title 40 CFR § 60.11 (relating to Compliance with Standards and Maintenance Requirements)

D. Title 40 CFR § 60.12 (relating to Circumvention)

E. Title 40 CFR § 60.13 (relating to Monitoring Requirements)

F. Title 40 CFR § 60.14 (relating to Modification)

G. Title 40 CFR § 60.15 (relating to Reconstruction)

H. Title 40 CFR § 60.19 (relating to General Notification and Reporting Requirements)

7. The permit holder shall comply with the requirements of 30 TAC Chapter 113, Subchapter C, § 113.100 for units subject to any subpart of 40 CFR Part 63, unless otherwise stated in the applicable subpart.

Additional Monitoring Requirements

8. Unless otherwise specified, the permit holder shall comply with the compliance assurance monitoring requirements as specified in the attached "CAM Summary" upon issuance of the permit. In addition, the permit holder shall comply with the following:

A. The permit holder shall comply with the terms and conditions contained in 30 TAC § 122.147 (General Terms and Conditions for Compliance Assurance Monitoring).

B. The permit holder shall report, consistent with the averaging time identified in the "CAM Summary," deviations as defined by the deviation limit in the "CAM Summary." Any monitoring data below a minimum limit or above a maximum limit, that is collected in accordance with the requirements specified in 40 CFR § 64.7(c), shall be reported as a deviation. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).

C. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time specified in the "CAM Summary," for purposes of determining whether a deviation has occurred.

However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances in order to avoid reporting deviations. All monitoring data shall be collected in accordance with the requirements specified in 40 CFR § 64.7(c).

D. The permit holder shall operate the monitoring, identified in the attached "CAM Summary," in accordance with the provisions of 40 CFR § 64.7.

E. The permit holder shall comply with either of the following requirements for any capture system associated with the VOC control device subject to CAM. If the results of the following inspections indicate that the capture system is not working properly, the permit holder shall promptly take necessary corrective actions:

(i) Once a year the permit holder shall inspect the capture system in compliance of CAM for leaks in accordance with 40 CFR Part 60, Appendix A, Test Method 21. Leaks shall be indicated by an instrument reading greater than or equal to 500 ppm above background or as defined by the underlying applicable requirement; or

(ii) Once a month, the permit holder shall conduct a visual, audible, and/or olfactory inspection of the capture system in compliance of CAM to detect leaking components.

F. The permit holder shall comply with either of the following requirements for any bypass of the control device subject to CAM. If the results of the following inspections or monitoring indicate bypass of the control device, the permit holder shall promptly take necessary corrective actions and report a deviation:

(i) Install a flow indicator that is capable of recording flow, at least once every fifteen minutes, immediately downstream of each valve that if opened would allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere; or

(ii) Once a month, the permit holder shall inspect the valves checking the position of the valves and the condition of the car seals. Identify all times when the car seal has been broken and the valve position has been changed to allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere.

G. The permit holder shall comply with the requirements of 40 CFR § 70.6(a)(3)(ii)(A) and 30 TAC § 122.144(1)(A)-(F) for documentation of all required inspections.

9. The permit holder shall comply with the periodic monitoring requirements as specified in the attached "Periodic Monitoring Summary" upon issuance of the permit. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permit holder shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time specified in the "Periodic Monitoring Summary," for purposes of determining whether a deviation has occurred. However, the additional data points

must be collected on a regular basis. In no event shall data be collected and used in particular instances to avoid reporting deviations. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).

New Source Review Authorization Requirements

10. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule, standard permits, flexible permits, special permits, permits for existing facilities including Voluntary Emissions Reduction Permits and Electric Generating Facility Permits issued under 30 TAC Chapter 116, Subchapter I, or special exemptions referenced in the New Source Review Authorization References attachment. These requirements:

    A. Are incorporated by reference into this permit as applicable requirements

    B. Shall be located with this operating permit

    C. Are not eligible for a permit shield

11. The permit holder shall comply with the general requirements of 30 TAC Chapter 106, Subchapter A or the general requirements, if any, in effect at the time of the claim of any PBR.

12. The permit holder shall maintain records to demonstrate compliance with any emission limitation or standard that is specified in a permit by rule (PBR) or Standard Permit listed in the New Source Review Authorizations attachment. The records shall yield reliable data from the relevant time period that are representative of the emission unit's compliance with the PBR or Standard Permit. These records may include, but are not limited to, production capacity and throughput, hours of operation, safety data sheets (SDS), chemical composition of raw materials, speciation of air contaminant data, engineering calculations, maintenance records, fugitive data, performance tests, capture/control device efficiencies, direct pollutant monitoring (CEMS, COMS, or PEMS), or control device parametric monitoring. These records shall be made readily accessible and available as required by 30 TAC § 122.144. Any monitoring or recordkeeping data indicating noncompliance with the PBR or Standard Permit shall be considered and reported as a deviation according to 30 TAC § 122.145 (Reporting Terms and Conditions).

Compliance Requirements

13. The permit holder shall certify compliance in accordance with 30 TAC § 122.146. The permit holder shall comply with 30 TAC § 122.146 using at a minimum, but not limited to, the continuous or intermittent compliance method data from monitoring, recordkeeping, reporting, or testing required by the permit and any other credible evidence or information. The certification period may not exceed 12 months and the certification must be submitted within 30 days after the end of the period being certified.

14. Permit holder shall comply with the following 30 TAC Chapter 117 requirements:

    A. The permit holder shall comply with the compliance schedules and submit written notification to the TCEQ Executive Director as required in 30 TAC Chapter 117, Subchapter H, Division 1:

(i) For sources in the Houston-Galveston-Brazoria Nonattainment area, 30 TAC § 117.9020:

(1) Title 30 TAC § 117.9020(2)(A), (C), and (D)

B. The permit holder shall comply with the Initial Control Plan unit listing requirement in 30 TAC § 117.350(c) and (c)(1).

C. The permit holder shall comply with the requirements of 30 TAC § 117.354 for Final Control Plan Procedures for Attainment Demonstration Emission Specifications and 30 TAC § 117.356 for Revision of Final Control Plan.

15. Use of Emission Credits to comply with applicable requirements:

A. Unless otherwise prohibited, the permit holder may use emission credits to comply with the following applicable requirements listed elsewhere in this permit:

(i) Title 30 TAC Chapter 115

(ii) Title 30 TAC Chapter 117

(iii) Offsets for Title 30 TAC Chapter 116

B. The permit holder shall comply with the following requirements in order to use the emission credits to comply with the applicable requirements:

(i) The permit holder must notify the TCEQ according to 30 TAC § 101.306(c)(2)

(ii) The emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 1

(iii) The executive director has approved the use of the credit according to 30 TAC § 101.306(c)(2)

(iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.302(g) and 30 TAC Chapter 122

16. Use of Discrete Emission Credits to comply with the applicable requirements:

A. Unless otherwise prohibited, the permit holder may use discrete emission credits to comply with the following applicable requirements listed elsewhere in this permit:

(i) Title 30 TAC Chapter 115

(ii) Title 30 TAC Chapter 117

(iii) If applicable, offsets for Title 30 TAC Chapter 116

(iv) Temporarily exceed state NSR permit allowables

B. The permit holder shall comply with the following requirements in order to use the credit to comply with the applicable requirements:

(i) The permit holder must notify the TCEQ according to 30 TAC § 101.376(d)

(ii) The discrete emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 4

(iii) The executive director has approved the use of the discrete emission credits according to 30 TAC § 101.376(d)(1)(A)

(iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.372(h) and 30 TAC Chapter 122

Permit Location

17. The permit holder shall maintain a copy of this permit and records related to requirements listed in this permit on site.

Permit Shield (30 TAC § 122.148)

18. A permit shield is granted for the emission units, groups, or processes specified in the attached "Permit Shield." Compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements listed in the attachment "Permit Shield." Permit shield provisions shall not be modified by the executive director until notification is provided to the permit holder. No later than 90 days after notification of a change in a determination made by the executive director, the permit holder shall apply for the appropriate permit revision to reflect the new determination. Provisional terms are not eligible for this permit shield. Any term or condition, under a permit shield, shall not be protected by the permit shield if it is replaced by a provisional term or condition or the basis of the term and condition changes.

Attachments

Applicable Requirements Summary

Additional Monitoring Requirements

Permit Shield

New Source Review Authorization References

Applicable Requirements Summary

Note: A "none" entry may be noted for some emission sources in this permit's "Applicable Requirements Summary" under the heading of "Monitoring and Testing Requirements" and/or "Recordkeeping Requirements" and/or "Reporting Requirements." Such a notation indicates that there are no requirements for the indicated emission source as identified under the respective column heading(s) for the stated portion of the regulation when the emission source is operating under the conditions of the specified SOP Index Number. However, other relevant requirements pursuant to 30 TAC Chapter 122 including Recordkeeping Terms and Conditions (30 TAC § 122.144), Reporting Terms and Conditions (30 TAC § 122.145), and Compliance Certification Terms and Conditions (30 TAC § 122.146) continue to apply.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
GRPBOIL	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	HFOBOILER101, HFOBOILER102, HFOBOILER103, HFOBOILER104	R7ICI	30 TAC Chapter 117, Subchapter B	No changing attributes.
GRPBOIL2	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	HFOBOILER105, HFOBOILER106, HFOBOILER107, HFOBOILER108	R7ICI	30 TAC Chapter 117, Subchapter B	No changing attributes.
GRPBOIL2	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	HFOBOILER105, HFOBOILER106, HFOBOILER107, HFOBOILER108	60Dc	40 CFR Part 60, Subpart Dc	No changing attributes.
GRPBOILW	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	HFOBOILER201, HFOBOILER202, HFOBOILER203, HFOBOILER204, HFOBOILER205, HFOBOILER206, HFOBOILER207, HFOBOILER208	R7ICI	30 TAC Chapter 117, Subchapter B	No changing attributes.
GRPBOILW	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	HFOBOILER201, HFOBOILER202, HFOBOILER203, HFOBOILER204, HFOBOILER205, HFOBOILER206, HFOBOILER207, HFOBOILER208	60Dc	40 CFR Part 60, Subpart Dc	No changing attributes.
GRPENG	SRIC ENGINES	HFOENG3, HFOENG4	R7ICI	30 TAC Chapter 117, Subchapter B	No changing attributes.
GRPENG1	SRIC ENGINES	HFOENG1, HFOENG11, HFOENG5	R7ICI	30 TAC Chapter 117, Subchapter B	No changing attributes.
GRPENG1	SRIC ENGINES	HFOENG1, HFOENG11, HFOENG5	63ZZZZ	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
GRPENG1W	SRIC ENGINES	HFOENGW8	R7ICI	30 TAC Chapter 117, Subchapter B	No changing attributes.
GRPENG1W	SRIC ENGINES	HFOENGW8	63ZZZZ	40 CFR Part 63, Subpart ZZZZ	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
GRPENG2	SRIC ENGINES	HFOENG2	R7ICI	30 TAC Chapter 117, Subchapter B	No changing attributes.
GRPENG2W	SRIC ENGINES	HFOENGW10, HFOENGW9	R7ICI	30 TAC Chapter 117, Subchapter B	No changing attributes.
GRPENG2W	SRIC ENGINES	HFOENGW10, HFOENGW9	63ZZZZ	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
GRPENGW	SRIC ENGINES	HFOENGW6, HFOENGW7	R7ICI	30 TAC Chapter 117, Subchapter B	No changing attributes.
GRPLNDLD	LOADING/UNLOADING OPERATIONS	HFORCARLD1, HFORCARLD2, HFOTTRCLD1, HFOTTRCLD2	R5211	30 TAC Chapter 115, Loading and Unloading of VOC	No changing attributes.
GRPLNDLDW	LOADING/UNLOADING OPERATIONS	HFORCARLD3, HFOTTRCLD3	R5211	30 TAC Chapter 115, Loading and Unloading of VOC	No changing attributes.
GRPMARCLD	LOADING/UNLOADING OPERATIONS	HFOSHPLD1C, HFOSHPLD2C, HFOSHPLD3C	R5211-1	30 TAC Chapter 115, Loading and Unloading of VOC	No changing attributes.
GRPMARCLD	LOADING/UNLOADING OPERATIONS	HFOSHPLD1C, HFOSHPLD2C, HFOSHPLD3C	63Y-1	40 CFR Part 63, Subpart Y	No changing attributes.
GRPMARCULD	LOADING/UNLOADING OPERATIONS	HFOSHPLD4C, HFOSHPLD5C	R5112-1	30 TAC Chapter 115, Loading and Unloading of VOC	No changing attributes.
GRPMARLD	LOADING/UNLOADING OPERATIONS	HFOBARGLD1, HFOBARGLD2, HFOBARGLD3, HFOBARGLD4, HFOBARGLD5, HFOSHIPLD1, HFOSHIPLD2, HFOSHIPLD3, HFOSHIPLD4	R5211-01	30 TAC Chapter 115, Loading and Unloading of VOC	TRUE VAPOR PRESSURE = True vapor pressure less than 0.5 psia., TRANSFER TYPE = Loading and unloading.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
GRPMARLD	LOADING/UNLOADING OPERATIONS	HFOBARGLD1, HFOBARGLD2, HFOBARGLD3, HFOBARGLD4, HFOBARGLD5, HFOSHIPLD1, HFOSHIPLD2, HFOSHIPLD3, HFOSHIPLD4	R5211-02	30 TAC Chapter 115, Loading and Unloading of VOC	TRUE VAPOR PRESSURE = True vapor pressure greater than or equal to 0.5 psia., DAILY THROUGHPUT = Daily throughput not determined since 30 TAC § 115.217(a)(2)(B), (b)(3)(B), (a)(2)(A), and (b)(3)(A) exemptions do not apply to marine terminals or gasoline terminals., TRANSFER TYPE = Only unloading.
GRPMARLDW	LOADING/UNLOADING OPERATIONS	HFOBARGLD6, HFOBRGDK7	R5211	30 TAC Chapter 115, Loading and Unloading of VOC	No changing attributes.
GRPSHIPVCU	EMISSION POINTS/ STATIONARY VENTS/ PROCESS VENTS	HFOVCU1, HFOVCU2, HFOVCU3, HFOVCU4	R1111-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
GRPSHIPVCU	INCINERATOR	HFOVCU1, HFOVCU2, HFOVCU3, HFOVCU4	R7300-1	30 TAC Chapter 117, Subchapter B	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
GRPTK2F	STORAGE TANKS/VESSELS	HFOTK00301, HFOTK01101, HFOTK08001, HFOTK08002, HFOTK08003, HFOTK08004, HFOTK08005, HFOTK08006, HFOTK08007, HFOTK08008, HFOTK08009, HFOTK08010, HFOTK08011, HFOTK08012, HFOTK08013, HFOTK08014, HFOTK08015, HFOTK08016, HFOTK08017, HFOTK08018, HFOTK08019, HFOTK20001, HFOTK20002, HFOTK20003, HFOTK20004, HFOTK25005, HFOTK25006, HFOTK25007, HFOTK25008	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
GRPTK2FA	STORAGE TANKS/VESSELS	HFOTK25001, HFOTK25002, HFOTK25003, HFOTK25004, HFOTK25009, HFOTK25010, HFOTK25011, HFOTK25012, HFOTK25013, HFOTK25014, HFOTK40011, HFOTK40012, HFOTK40013	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
GRPTK2FA	STORAGE TANKS/VESSELS	HFOTK25001, HFOTK25002, HFOTK25003, HFOTK25004, HFOTK25009, HFOTK25010, HFOTK25011, HFOTK25012, HFOTK25013, HFOTK25014, HFOTK40011, HFOTK40012, HFOTK40013	60Kb	40 CFR Part 60, Subpart Kb	No changing attributes.
GRPTK3C	STORAGE TANKS/VESSELS	HFOTK40001, HFOTK400010, HFOTK40002, HFOTK40003, HFOTK40004, HFOTK40005, HFOTK40006, HFOTK40007, HFOTK40009	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
GRPTK3C	STORAGE TANKS/VESSELS	HFOTK40001, HFOTK400010, HFOTK40002, HFOTK40003, HFOTK40004, HFOTK40005, HFOTK40006, HFOTK40007, HFOTK40009	60Kb	40 CFR Part 60, Subpart Kb	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
GRPTK3F	STORAGE TANKS/VESSELS	HFOTK26601, HFOTK26602, HFOTK32502	R5112-01	30 TAC Chapter 115, Storage of VOCs	Storage Capacity = Capacity is greater than 40,000 gallons, True Vapor Pressure = True vapor pressure is less than 1.0 psia, Tank Description = Tank does not require emission controls, Product Stored = VOC other than crude oil or condensate
GRPTK3F	STORAGE TANKS/VESSELS	HFOTK26601, HFOTK26602, HFOTK32502	R5112-02	30 TAC Chapter 115, Storage of VOCs	Storage Capacity = Capacity is greater than 40,000 gallons, True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia, Tank Description = Tank using an internal floating roof (IFR), Product Stored = VOC other than crude oil or condensate

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
GRPTK3F	STORAGE TANKS/VESSELS	HFOTK26601, HFOTK26602, HFOTK32502	R5112-03	30 TAC Chapter 115, Storage of VOCs	Storage Capacity = Capacity is greater than 40,000 gallons, True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia, Tank Description = Tank using an internal floating roof (IFR), Product Stored = Crude oil and/or condensate
GRPTK3F	STORAGE TANKS/VESSELS	HFOTK26601, HFOTK26602, HFOTK32502	60Kb-03	40 CFR Part 60, Subpart Kb	PRODUCT STORED = Petroleum liquid (other than petroleum or condensate)
GRPTK3F	STORAGE TANKS/VESSELS	HFOTK26601, HFOTK26602, HFOTK32502	60Kb-04	40 CFR Part 60, Subpart Kb	PRODUCT STORED = Volatile organic liquid
GRPTK3F	STORAGE TANKS/VESSELS	HFOTK26601, HFOTK26602, HFOTK32502	60Kb-05	40 CFR Part 60, Subpart Kb	PRODUCT STORED = Crude oil stored, processed, and/or treated after custody transfer, REID VAPOR PRESSURE = Reid vapor pressure is greater than or equal to 2.0 psia

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
GRPTK3FW	STORAGE TANKS/VESSELS	HFOTK03018, HFOTK03019, HFOTK03801, HFOTK10003, HFOTK10004, HFOTK10005, HFOTK10006, HFOTK10007, HFOTK10008, HFOTK10009, HFOTK1001, HFOTK10010, HFOTK10011, HFOTK10012, HFOTK10013, HFOTK10014, HFOTK10015, HFOTK10016, HFOTK10017, HFOTK10018, HFOTK10019, HFOTK10020, HFOTK10021, HFOTK10022, HFOTK10023, HFOTK10024, HFOTK1301, HFOTK1302, HFOTK3011, HFOTK3012, HFOTK3013, HFOTK3014, HFOTK3015, HFOTK3016, HFOTK3017, HFOTK9001, HFOTK9002, HFOTK9501, HFOTK9502	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
GRPTK4F	STORAGE TANKS/VESSELS	HFOTK02001, HFOTK02002, HFOTK02003, HFOTK02004, HFOTK03001, HFOTK03002, HFOTK03003, HFOTK03004, HFOTK03005, HFOTK03006, HFOTK03701, HFOTK03702, HFOTK08020, HFOTK08021, HFOTK08022, HFOTK08023, HFOTK08024, HFOTK08025, HFOTK08026, HFOTK08027, HFOTK08028, HFOTK08029, HFOTK08030, HFOTK08031, HFOTK08032, HFOTK08033, HFOTK08034, HFOTK08035, HFOTK08036, HFOTK08037, HFOTK08038, HFOTK10001, HFOTK10002, HFOTK17501, HFOTK17502, HFOTK17503, HFOTK17504, HFOTK20005, HFOTK20006, HFOTK20007, HFOTK20008, HFOTK20009, HFOTK32501	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
GRPTKRO	STORAGE TANKS/VESSELS	HFOW-WWTIOT, HFOW-WWTOCT	R5112-1	30 TAC Chapter 115, Storage of VOCs	PRODUCT STORED = VOC other than crude oil or condensate

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
GRPTKRO	STORAGE TANKS/VESSELS	HFOW-WWTIOT, HFOW-WWTOCT	R5112-2	30 TAC Chapter 115, Storage of VOCs	PRODUCT STORED = Crude oil and/or condensate
GRPTKWW	STORAGE TANKS/VESSELS	HFOTKW301, HFOTKW302, HFOTKW303, HFOW-WWT6-1, HFOW-WWT9-3	R5112-1	30 TAC Chapter 115, Storage of VOCs	STORAGE CAPACITY = Capacity is greater than 40,000 gallons, PRODUCT STORED = VOC other than crude oil or condensate
GRPTKWW	STORAGE TANKS/VESSELS	HFOTKW301, HFOTKW302, HFOTKW303, HFOW-WWT6-1, HFOW-WWT9-3	R5112-2	30 TAC Chapter 115, Storage of VOCs	STORAGE CAPACITY = Capacity is greater than 40,000 gallons, PRODUCT STORED = Crude oil and/or condensate
GRPTKWWIFR	STORAGE TANKS/VESSELS	HFOW-WWT648	R5112-1	30 TAC Chapter 115, Storage of VOCs	PRODUCT STORED = VOC other than crude oil or condensate
GRPTKWWIFR	STORAGE TANKS/VESSELS	HFOW-WWT648	R5112-2	30 TAC Chapter 115, Storage of VOCs	PRODUCT STORED = Crude oil and/or condensate
MRNFUG	FUGITIVE EMISSION UNITS	N/A	R5352	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	No changing attributes.

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPBOIL	EU	R7ICI	NO_x	30 TAC Chapter 117, Subchapter B	§ 117.310(d)(3) § 117.310(a) § 117.310(a)(1)(C) § 117.310(b) [G]§ 117.310(e)(1) § 117.310(e)(2) [G]§ 117.310(e)(3) § 117.310(e)(4) § 117.340(l)(2) § 117.340(p)(1) § 117.340(p)(2)(C) § 117.340(p)(3)	An owner or operator may not use the alternative methods specified in §§ 117.315, 117.323 and 117.9800 to comply with the NO_x emission specifications but shall use the mass emissions cap and trade program in Chapter 101, Subchapter H, Division 3, except that electric generating facilities must also comply with the daily and 30-day system cap emission limitations of § 117.320. An owner or operator may use the alternative methods specified in § 117.9800 to comply with § 117.320.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g) § 117.340(a) § 117.340(l)(2) § 117.340(o)(1) § 117.340(p)(1) § 117.340(p)(2)(A) § 117.340(p)(2)(B) § 117.340(p)(2)(C)	§ 117.345(a) § 117.345(f) § 117.345(f)(1) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) § 117.340(p)(2)(D) [G]§ 117.345(b) [G]§ 117.345(c)
GRPBOIL	EU	R7ICI	CO	30 TAC Chapter 117, Subchapter B	§ 117.310(c)(1) § 117.310(c)(1)(B) § 117.310(c)(3)	CO emissions must not exceed 400 ppmv at 3.0% O 2, dry basis.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g)	§ 117.345(a) § 117.345(f) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) [G]§ 117.345(b) [G]§ 117.345(c)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPBOIL2	EU	R7ICI	NO_x	30 TAC Chapter 117, Subchapter B	§ 117.310(d)(3) § 117.310(a) § 117.310(a)(1)(C) § 117.310(b) [G]§ 117.310(e)(1) § 117.310(e)(2) [G]§ 117.310(e)(3) § 117.310(e)(4) § 117.340(l)(2) § 117.340(p)(1) § 117.340(p)(2)(C) § 117.340(p)(3)	An owner or operator may not use the alternative methods specified in §§ 117.315, 117.323 and 117.9800 to comply with the NO_x emission specifications but shall use the mass emissions cap and trade program in Chapter 101, Subchapter H, Division 3, except that electric generating facilities must also comply with the daily and 30-day system cap emission limitations of § 117.320. An owner or operator may use the alternative methods specified in § 117.9800 to comply with § 117.320.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g) § 117.340(a) § 117.340(l)(2) § 117.340(o)(1) § 117.340(p)(1) § 117.340(p)(2)(A) § 117.340(p)(2)(B) § 117.340(p)(2)(C)	§ 117.345(a) § 117.345(f) § 117.345(f)(1) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) § 117.340(p)(2)(D) [G]§ 117.345(b) [G]§ 117.345(c)
GRPBOIL2	EU	R7ICI	CO	30 TAC Chapter 117, Subchapter B	§ 117.310(c)(1) § 117.310(c)(1)(B) § 117.310(c)(3)	CO emissions must not exceed 400 ppmv at 3.0% O 2, dry basis.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g)	§ 117.345(a) § 117.345(f) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) [G]§ 117.345(b) [G]§ 117.345(c)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPBOIL2	EU	60Dc	SO_2	40 CFR Part 60, Subpart Dc	§ 60.40c(a)	This subpart applies to each steam generating unit constructed, reconstructed, or modified after 6/9/89 and that has a maximum design heat input capacity of 2.9-29 megawatts (MW).	None	§ 60.48c(g)(1) § 60.48c(g)(2) § 60.48c(g)(3) § 60.48c(i)	[G]§ 60.48c(a) § 60.48c(j)
GRPBOIL2	EU	60Dc	PM	40 CFR Part 60, Subpart Dc	§ 60.40c(a)	This subpart applies to each steam generating unit constructed, reconstructed, or modified after 6/9/89 and that has a maximum design heat input capacity of 2.9-29 megawatts (MW).	None	§ 60.48c(g)(1) § 60.48c(g)(2) § 60.48c(g)(3) § 60.48c(i)	[G]§ 60.48c(a) § 60.48c(j)
GRPBOIL2	EU	60Dc	PM (OPACITY)	40 CFR Part 60, Subpart Dc	§ 60.40c(a)	This subpart applies to each steam generating unit constructed, reconstructed, or modified after 6/9/89 and that has a maximum design heat input capacity of 2.9-29 megawatts (MW).	None	§ 60.48c(g)(1) § 60.48c(g)(2) § 60.48c(g)(3) § 60.48c(i)	[G]§ 60.48c(a) § 60.48c(j)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPBOILW	EU	R7ICI	NO_x	30 TAC Chapter 117, Subchapter B	§ 117.310(d)(3) § 117.310(a) § 117.310(a)(1)(C) § 117.310(b) [G]§ 117.310(e)(1) § 117.310(e)(2) [G]§ 117.310(e)(3) § 117.310(e)(4) § 117.340(l)(2) § 117.340(p)(1) § 117.340(p)(2)(C) § 117.340(p)(3)	An owner or operator may not use the alternative methods specified in §§ 117.315, 117.323 and 117.9800 to comply with the NO_x emission specifications but shall use the mass emissions cap and trade program in Chapter 101, Subchapter H, Division 3, except that electric generating facilities must also comply with the daily and 30-day system cap emission limitations of § 117.320. An owner or operator may use the alternative methods specified in § 117.9800 to comply with § 117.320.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g) § 117.340(a) § 117.340(l)(2) § 117.340(o)(1) § 117.340(p)(1) § 117.340(p)(2)(A) § 117.340(p)(2)(B) § 117.340(p)(2)(C)	§ 117.345(a) § 117.345(f) § 117.345(f)(1) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) § 117.340(p)(2)(D) [G]§ 117.345(b) [G]§ 117.345(c)
GRPBOILW	EU	R7ICI	CO	30 TAC Chapter 117, Subchapter B	§ 117.310(c)(1) § 117.310(c)(1)(B) § 117.310(c)(3)	CO emissions must not exceed 400 ppmv at 3.0% O 2, dry basis.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g)	§ 117.345(a) § 117.345(f) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) [G]§ 117.345(b) [G]§ 117.345(c)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPBOILW	EU	60Dc	SO_2	40 CFR Part 60, Subpart Dc	§ 60.40c(a)	This subpart applies to each steam generating unit constructed, reconstructed, or modified after 6/9/89 and that has a maximum design heat input capacity of 2.9-29 megawatts (MW).	None	§ 60.48c(g)(1) § 60.48c(g)(2) § 60.48c(g)(3) § 60.48c(i)	[G]§ 60.48c(a) § 60.48c(j)
GRPBOILW	EU	60Dc	PM	40 CFR Part 60, Subpart Dc	§ 60.40c(a)	This subpart applies to each steam generating unit constructed, reconstructed, or modified after 6/9/89 and that has a maximum design heat input capacity of 2.9-29 megawatts (MW).	None	§ 60.48c(g)(1) § 60.48c(g)(2) § 60.48c(g)(3) § 60.48c(i)	[G]§ 60.48c(a) § 60.48c(j)
GRPBOILW	EU	60Dc	PM (OPACITY)	40 CFR Part 60, Subpart Dc	§ 60.40c(a)	This subpart applies to each steam generating unit constructed, reconstructed, or modified after 6/9/89 and that has a maximum design heat input capacity of 2.9-29 megawatts (MW).	None	§ 60.48c(g)(1) § 60.48c(g)(2) § 60.48c(g)(3) § 60.48c(i)	[G]§ 60.48c(a) § 60.48c(j)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPENG	EU	R7ICI	EXEMPT	30 TAC Chapter 117, Subchapter B	§ 117.303(a)(6)(D) [G]§ 117.310(f)	Units exempted from the provisions of this division, except as specified in §§117.310(f), 117.340(j), 117.345(f)(6) and (10), 117.350(c)(1), and 117.354(a)(5), include stationary gas turbines and stationary internal combustion engines that are used exclusively in emergency situations, except that operation for testing or maintenance purposes is allowed for up to 52 hours per year, based on a rolling 12-month average.	None	§ 117.340(j) [G]§ 117.345(f)(10) [G]§ 117.345(f)(6)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPENG1	EU	R7ICI	EXEMPT	30 TAC Chapter 117, Subchapter B	[G]§ 117.303(a)(11) [G]§ 117.310(f)	Units exempted from the provisions of this division except as specified in §§117.310(f), 117.340(j), 117.345(f)(6) and (10), 117.350(c)(1) and 117.354(a)(5) include new, modified, reconstructed, or relocated stationary diesel engine placed into service on or after October 1, 2001, that operates less than 100 hours per year, based on a rolling 12-month average, in other than emergency situations; and meets the requirements for non-road engines as specified. §117.303(a)(11)(A)-(B)	None	§ 117.340(j) [G]§ 117.345(f)(10) [G]§ 117.345(f)(6)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPENG1	EU	63ZZZZ	112(B) HAPS	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(c)	A new/reconstructed stationary RICE located at an area source, or located at a major source of HAP emissions and is a spark ignition (SI) 2SLB < 500 HP, SI 4 SLB < 250 HP, or 4SRB, compression ignition (CI), emergency or limited use, or which combusts landfill or digester gas at > 10% of the gross heat input < 500 HP must meet the requirements of this part by meeting the requirements of 40 CFR Part 60, Subpart IIII, for CI engines or 40 CFR Part 60, Subpart JJJJ, for SI engines.	None	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPENG1W	EU	R7ICI	EXEMPT	30 TAC Chapter 117, Subchapter B	[G]§ 117.303(a)(11) [G]§ 117.310(f)	Units exempted from the provisions of this division except as specified in §§117.310(f), 117.340(j), 117.345(f)(6) and (10), 117.350(c)(1) and 117.354(a)(5) include new, modified, reconstructed, or relocated stationary diesel engine placed into service on or after October 1, 2001, that operates less than 100 hours per year, based on a rolling 12-month average, in other than emergency situations; and meets the requirements for non-road engines as specified. §117.303(a)(11)(A)-(B)	None	§ 117.340(j) [G]§ 117.345(f)(10) [G]§ 117.345(f)(6)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPENG1W	EU	63ZZZZ	112(B) HAPS	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(c)	A new/reconstructed stationary RICE located at an area source, or located at a major source of HAP emissions and is a spark ignition (SI) 2SLB < 500 HP, SI 4 SLB < 250 HP, or 4SRB, compression ignition (CI), emergency or limited use, or which combusts landfill or digester gas at > 10% of the gross heat input < 500 HP must meet the requirements of this part by meeting the requirements of 40 CFR Part 60, Subpart IIII, for CI engines or 40 CFR Part 60, Subpart JJJJ, for SI engines.	None	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPENG2	EU	R7ICI	EXEMPT	30 TAC Chapter 117, Subchapter B	§ 117.303(a)(6)(D) [G]§ 117.310(f)	Units exempted from the provisions of this division, except as specified in §§117.310(f), 117.340(j), 117.345(f)(6) and (10), 117.350(c)(1), and 117.354(a)(5), include stationary gas turbines and stationary internal combustion engines that are used exclusively in emergency situations, except that operation for testing or maintenance purposes is allowed for up to 52 hours per year, based on a rolling 12-month average.	None	§ 117.340(j) [G]§ 117.345(f)(10) [G]§ 117.345(f)(6)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPENG2W	EU	R7ICI	EXEMPT	30 TAC Chapter 117, Subchapter B	[G]§ 117.303(a)(11) [G]§ 117.310(f)	Units exempted from the provisions of this division except as specified in §§117.310(f), 117.340(j), 117.345(f)(6) and (10), 117.350(c)(1) and 117.354(a)(5) include new, modified, reconstructed, or relocated stationary diesel engine placed into service on or after October 1, 2001, that operates less than 100 hours per year, based on a rolling 12-month average, in other than emergency situations; and meets the requirements for non-road engines as specified. §117.303(a)(11)(A)-(B)	None	§ 117.340(j) [G]§ 117.345(f)(10) [G]§ 117.345(f)(6)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPENG2W	EU	63ZZZZ	112(B) HAPS	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(c)	A new/reconstructed stationary RICE located at an area source, or located at a major source of HAP emissions and is a spark ignition (SI) 2SLB < 500 HP, SI 4 SLB < 250 HP, or 4SRB, compression ignition (CI), emergency or limited use, or which combusts landfill or digester gas at > 10% of the gross heat input < 500 HP must meet the requirements of this part by meeting the requirements of 40 CFR Part 60, Subpart IIII, for CI engines or 40 CFR Part 60, Subpart JJJJ, for SI engines.	None	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPENGW	EU	R7ICI	EXEMPT	30 TAC Chapter 117, Subchapter B	[G]§ 117.303(a)(11) [G]§ 117.310(f)	Units exempted from the provisions of this division except as specified in §§117.310(f), 117.340(j), 117.345(f)(6) and (10), 117.350(c)(1) and 117.354(a)(5) include new, modified, reconstructed, or relocated stationary diesel engine placed into service on or after October 1, 2001, that operates less than 100 hours per year, based on a rolling 12-month average, in other than emergency situations; and meets the requirements for non-road engines as specified. §117.303(a)(11)(A)-(B)	None	§ 117.340(j) [G]§ 117.345(f)(10) [G]§ 117.345(f)(6)	None
GRPLNDLD	EU	R5211	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(1) § 115.212(a)(2) [G]§ 115.212(a)(7) § 115.214(a)(1)(B) § 115.214(a)(1)(D) § 115.214(a)(1)(D)(i)	Vapor pressure (at land-based operations). All land-based loading and unloading of VOC with a true vapor pressure less than 0.5 psia is exempt from the requirements of this division, except as specified.	§ 115.214(a)(1)(A) § 115.214(a)(1)(A)(i) § 115.215 § 115.215(4)	§ 115.216 § 115.216(2) § 115.216(3)(B)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPLNDLDW	EU	R5211	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(1) § 115.212(a)(2) [G]§ 115.212(a)(7) § 115.214(a)(1)(B) § 115.214(a)(1)(D) § 115.214(a)(1)(D)(i)	Vapor pressure (at land-based operations). All land-based loading and unloading of VOC with a true vapor pressure less than 0.5 psia is exempt from the requirements of this division, except as specified.	§ 115.214(a)(1)(A) § 115.214(a)(1)(A)(i) § 115.215 § 115.215(4)	§ 115.216 § 115.216(2) § 115.216(3)(B)	None
GRPMARCLD	EU	R5211-1	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.212(a)(6)(A) § 115.212(a)(6)(B) [G]§ 115.212(a)(6)(C) § 115.212(a)(6)(D) [G]§ 115.214(a)(3)(A) § 115.214(a)(3)(C) § 115.214(a)(3)(D) § 115.214(a)(3)(E)	Emissions shall not exceed 0.09lb/1,000gal loaded, or the vapor control system shall maintain a control efficiency of at least 90%, or a vapor balance system or pressurized loading may be used.	[G]§ 115.214(a)(3)(A) § 115.214(a)(3)(B) § 115.214(a)(3)(B)(i) § 115.214(a)(3)(B)(ii) § 115.214(a)(3)(B)(iii) § 115.214(a)(3)(D) § 115.215 § 115.215(1) § 115.215(10) [G]§ 115.215(2) § 115.215(4) § 115.215(5) § 115.215(7) § 115.215(8) § 115.215(9) § 115.216(1) § 115.216(1)(A) § 115.216(1)(A)(iv) ** See CAM Summary	[G]§ 115.214(a)(3)(A) § 115.214(a)(3)(D) § 115.216 § 115.216(1) § 115.216(1)(A) § 115.216(1)(A)(iv) § 115.216(2) [G]§ 115.216(4)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPMARCLD	EU	63Y-1	EXEMPT	40 CFR Part 63, Subpart Y	§ 63.560(a)(2) § 153.282 § 63.560(a)(4)	Existing sources with emissions less than 10 and 25 tons must meet the submerged fill standards of 46 CFR 153.282. This submerged fill requirement does not apply to petroleum refineries.	§ 63.565(l)	§ 63.567(j)(4)	None
GRPMARCULD	EU	R5112-1	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(5)(B) § 115.214(a)(3)(C) § 115.214(a)(3)(G) § 115.214(a)(3)(G)(i) § 115.217(a)(5)(B)(i)	The marine vessel transfer operations specified in § 115.217(a)(5)(B)(i)-(iv) are exempt from the requirements of §§ 115.212(a), 115.214(a), and 115.216 of this title, except as noted.	§ 115.214(a)(3)(B) § 115.214(a)(3)(B)(i)	§ 115.216 § 115.216(2)	None
GRPMARLD	EU	R5211-01	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(5)(B) § 115.212(a)(6)(D) [G]§ 115.212(a)(7) § 115.214(a)(3)(C) § 115.214(a)(3)(G) § 115.214(a)(3)(G)(i) § 115.217(a)(5)(B)(iii)	The marine vessel transfer operations specified in § 115.217(a)(5)(B)(i)-(iv) are exempt from the requirements of §§ 115.212(a), 115.214(a), and 115.216 of this title, except as noted.	§ 115.214(a)(3)(B) § 115.214(a)(3)(B)(i) § 115.215 § 115.215(4)	§ 115.216 § 115.216(2)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPMARLD	EU	R5211-01	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(5)(B) [G]§ 115.212(a)(7) § 115.214(a)(3)(C) § 115.214(a)(3)(G) § 115.214(a)(3)(G)(i) § 115.217(a)(5)(B)(i)	The marine vessel transfer operations specified in § 115.217(a)(5)(B)(i)-(iv) are exempt from the requirements of §§ 115.212(a), 115.214(a), and 115.216 of this title, except as noted.	§ 115.214(a)(3)(B) § 115.214(a)(3)(B)(i)	§ 115.216 § 115.216(2)	None
GRPMARLD	EU	R5211-02	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(5)(B) [G]§ 115.212(a)(7) § 115.214(a)(3)(C) § 115.214(a)(3)(G) § 115.214(a)(3)(G)(i) § 115.217(a)(5)(B)(i)	The marine vessel transfer operations specified in § 115.217(a)(5)(B)(i)-(iv) are exempt from the requirements of §§ 115.212(a), 115.214(a), and 115.216 of this title, except as noted.	§ 115.214(a)(3)(B) § 115.214(a)(3)(B)(i)	§ 115.216 § 115.216(2)	None
GRPMARLDW	EU	R5211	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(5)(B) § 115.212(a)(6)(D) [G]§ 115.212(a)(7) § 115.214(a)(3)(C) § 115.214(a)(3)(G) § 115.214(a)(3)(G)(i) § 115.217(a)(5)(B)(iii)	The marine vessel transfer operations specified in § 115.217(a)(5)(B)(i)-(iv) are exempt from the requirements of §§ 115.212(a), 115.214(a), and 115.216 of this title, except as noted.	§ 115.214(a)(3)(B) § 115.214(a)(3)(B)(i) § 115.215 § 115.215(4)	§ 115.216 § 115.216(2)	None
GRPMARLDW	EU	R5211	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(5)(B) [G]§ 115.212(a)(7) § 115.214(a)(3)(C) § 115.214(a)(3)(G) § 115.214(a)(3)(G)(i) § 115.217(a)(5)(B)(i)	The marine vessel transfer operations specified in § 115.217(a)(5)(B)(i)-(iv) are exempt from the requirements of §§ 115.212(a), 115.214(a), and 115.216 of this title, except as noted.	§ 115.214(a)(3)(B) § 115.214(a)(3)(B)(i)	§ 115.216 § 115.216(2)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPSHIPVCU	EP	R1111-1	PM (OPACITY)	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
GRPSHIPVCU	EU	R7300-1	NO_x	30 TAC Chapter 117, Subchapter B	§ 117.310(d)(3) § 117.310(a) [G]§ 117.310(a)(16) § 117.310(b) [G]§ 117.310(e)(1) § 117.310(e)(2) [G]§ 117.310(e)(3) § 117.310(e)(4) § 117.340(l)(2) § 117.340(p)(1) § 117.340(p)(2)(C) § 117.340(p)(3)	An owner or operator may not use the alternative methods specified in §§ 117.315, 117.323 and 117.9800 to comply with the NO_x emission specifications but shall use the mass emissions cap and trade program in Chapter 101, Subchapter H, Division 3, except that electric generating facilities must also comply with the daily and 30-day system cap emission limitations of § 117.320. An owner or operator may use the alternative methods specified in § 117.9800 to comply with § 117.320.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g) § 117.340(a) § 117.340(l)(2) § 117.340(o)(1) § 117.340(p)(1) § 117.340(p)(2)(A) § 117.340(p)(2)(B) § 117.340(p)(2)(C) § 117.8000(b) § 117.8000(c) § 117.8000(c)(1) § 117.8000(c)(3) § 117.8000(c)(5) § 117.8000(c)(6) [G]§ 117.8000(d)	§ 117.345(a) § 117.345(f) § 117.345(f)(1) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) § 117.340(p)(2)(D) [G]§ 117.345(b) [G]§ 117.345(c) § 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) § 117.8010(2)(C) § 117.8010(2)(D) [G]§ 117.8010(3) § 117.8010(4) [G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7) [G]§ 117.8010(8)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPSHIPVCU	EU	R7300-1	CO	30 TAC Chapter 117, Subchapter B	§ 117.310(c)(1) § 117.310(c)(1)(B)	CO emissions must not exceed 400 ppmv at 3.0% O 2, dry basis.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g) § 117.340(a) § 117.8000(b) § 117.8000(c) § 117.8000(c)(2) § 117.8000(c)(3) § 117.8000(c)(5) § 117.8000(c)(6) [G]§ 117.8000(d) § 117.8120 § 117.8120(2) [G]§ 117.8120(2)(A) § 117.8120(2)(B)	§ 117.345(a) § 117.345(f) § 117.345(f)(1) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) [G]§ 117.345(b) [G]§ 117.345(c) § 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) [G]§ 117.8010(3) § 117.8010(4) [G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7) [G]§ 117.8010(8)
GRPTK2F	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(6)(A) § 115.118(a)(7)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPTK2FA	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(e)(1) § 115.112(e)(2) § 115.112(e)(2)(A) § 115.112(e)(2)(B) § 115.112(e)(2)(C) § 115.112(e)(2)(D) § 115.112(e)(2)(F) [G]§ 115.112(e)(2)(I) § 115.114(a)(1)(A)	No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate.	§ 115.114(a)(1) § 115.114(a)(1)(A) [G]§ 115.117	§ 115.118(a)(3) § 115.118(a)(5) § 115.118(a)(6)(C) § 115.118(a)(7)	§ 115.114(a)(1)(B) § 115.118(a)(3)
GRPTK2FA	EU	60Kb	VOC	40 CFR Part 60, Subpart Kb	§ 60.112b(a)(1) § 60.112b(a)(1)(i) § 60.112b(a)(1)(ii)(B) § 60.112b(a)(1)(iii) § 60.112b(a)(1)(iv) § 60.112b(a)(1)(ix) § 60.112b(a)(1)(v) § 60.112b(a)(1)(vi) § 60.112b(a)(1)(vii) § 60.112b(a)(1)(viii)	Storage vessels specified in §60.112b(a) and equipped with a fixed roof in combination with an internal floating roof shall meet the specifications listed in §60.112b(a)(1)(i)-(ix).	§ 60.113b(a)(1) [G]§ 60.113b(a)(3) § 60.113b(a)(4) § 60.113b(a)(5) § 60.116b(a) § 60.116b(b) § 60.116b(c) § 60.116b(e) § 60.116b(e)(1) § 60.116b(e)(2)(i)	§ 60.115b § 60.115b(a)(2) § 60.116b(a) § 60.116b(b) § 60.116b(c)	§ 60.113b(a)(5) § 60.115b § 60.115b(a)(1) § 60.115b(a)(4)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPTK3C	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(e)(1) § 115.112(e)(2) § 115.112(e)(2)(A) § 115.112(e)(2)(B) § 115.112(e)(2)(C) § 115.112(e)(2)(D) § 115.112(e)(2)(F) [G]§ 115.112(e)(2)(I) § 115.114(a)(1)(A)	No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate.	§ 115.114(a)(1) § 115.114(a)(1)(A) [G]§ 115.117	§ 115.118(a)(3) § 115.118(a)(5) § 115.118(a)(6)(C) § 115.118(a)(7)	§ 115.114(a)(1)(B) § 115.118(a)(3)
GRPTK3C	EU	60Kb	VOC	40 CFR Part 60, Subpart Kb	§ 60.112b(a)(1) § 60.112b(a)(1)(i) § 60.112b(a)(1)(ii)(B) § 60.112b(a)(1)(iii) § 60.112b(a)(1)(iv) § 60.112b(a)(1)(ix) § 60.112b(a)(1)(v) § 60.112b(a)(1)(vi) § 60.112b(a)(1)(vii) § 60.112b(a)(1)(viii)	Storage vessels specified in §60.112b(a) and equipped with a fixed roof in combination with an internal floating roof shall meet the specifications listed in §60.112b(a)(1)(i)-(ix).	§ 60.113b(a)(1) [G]§ 60.113b(a)(3) § 60.113b(a)(4) § 60.113b(a)(5) § 60.116b(a) § 60.116b(b) § 60.116b(c) § 60.116b(e) § 60.116b(e)(1) § 60.116b(e)(2)(i)	§ 60.115b § 60.115b(a)(2) § 60.116b(a) § 60.116b(b) § 60.116b(c)	§ 60.113b(a)(5) § 60.115b § 60.115b(a)(1) § 60.115b(a)(4)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPTK3F	EU	R5112-01	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(6)(A) § 115.118(a)(7)	None
GRPTK3F	EU	R5112-02	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(e)(1) § 115.112(e)(2) § 115.112(e)(2)(A) § 115.112(e)(2)(B) § 115.112(e)(2)(C) § 115.112(e)(2)(D) § 115.112(e)(2)(F) [G]§ 115.112(e)(2)(I) § 115.114(a)(1)(A)	No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate.	§ 115.114(a)(1) § 115.114(a)(1)(A) [G]§ 115.117	§ 115.118(a)(3) § 115.118(a)(5) § 115.118(a)(6)(C) § 115.118(a)(7)	§ 115.114(a)(1)(B) § 115.118(a)(3)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPTK3F	EU	R5112-03	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(e)(1) § 115.112(e)(2) § 115.112(e)(2)(A) § 115.112(e)(2)(B) § 115.112(e)(2)(C) § 115.112(e)(2)(D) § 115.112(e)(2)(F) [G]§ 115.112(e)(2)(I) § 115.114(a)(1)(A)	No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate.	§ 115.114(a)(1) § 115.114(a)(1)(A) [G]§ 115.117	§ 115.118(a)(3) § 115.118(a)(5) § 115.118(a)(6)(C) § 115.118(a)(7)	§ 115.114(a)(1)(B) § 115.118(a)(3)
GRPTK3F	EU	60Kb-03	VOC	40 CFR Part 60, Subpart Kb	§ 60.112b(a)(1) § 60.112b(a)(1)(i) § 60.112b(a)(1)(ii)(B) § 60.112b(a)(1)(iii) § 60.112b(a)(1)(iv) § 60.112b(a)(1)(ix) § 60.112b(a)(1)(v) § 60.112b(a)(1)(vi) § 60.112b(a)(1)(vii) § 60.112b(a)(1)(viii)	Storage vessels specified in §60.112b(a) and equipped with a fixed roof in combination with an internal floating roof shall meet the specifications listed in §60.112b(a)(1)(i)-(ix).	§ 60.113b(a)(1) [G]§ 60.113b(a)(3) § 60.113b(a)(4) § 60.113b(a)(5) § 60.116b(a) § 60.116b(b) § 60.116b(c) § 60.116b(e) § 60.116b(e)(1) § 60.116b(e)(2)(i)	§ 60.115b § 60.115b(a)(2) § 60.116b(a) § 60.116b(b) § 60.116b(c)	§ 60.113b(a)(5) § 60.115b § 60.115b(a)(1) § 60.115b(a)(4)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPTK3F	EU	60Kb-04	VOC	40 CFR Part 60, Subpart Kb	§ 60.112b(a)(1) § 60.112b(a)(1)(i) § 60.112b(a)(1)(ii)(B) § 60.112b(a)(1)(iii) § 60.112b(a)(1)(iv) § 60.112b(a)(1)(ix) § 60.112b(a)(1)(v) § 60.112b(a)(1)(vi) § 60.112b(a)(1)(vii) § 60.112b(a)(1)(viii)	Storage vessels specified in §60.112b(a) and equipped with a fixed roof in combination with an internal floating roof shall meet the specifications listed in §60.112b(a)(1)(i)-(ix).	§ 60.113b(a)(1) [G]§ 60.113b(a)(3) § 60.113b(a)(4) § 60.113b(a)(5) § 60.116b(a) § 60.116b(b) § 60.116b(c) § 60.116b(e) § 60.116b(e)(1) [G]§ 60.116b(e)(3)	§ 60.115b § 60.115b(a)(2) § 60.116b(a) § 60.116b(b) § 60.116b(c)	§ 60.113b(a)(5) § 60.115b § 60.115b(a)(1) § 60.115b(a)(4)
GRPTK3F	EU	60Kb-05	VOC	40 CFR Part 60, Subpart Kb	§ 60.112b(a)(1) § 60.112b(a)(1)(i) § 60.112b(a)(1)(ii)(B) § 60.112b(a)(1)(iii) § 60.112b(a)(1)(iv) § 60.112b(a)(1)(ix) § 60.112b(a)(1)(v) § 60.112b(a)(1)(vi) § 60.112b(a)(1)(vii) § 60.112b(a)(1)(viii)	Storage vessels specified in §60.112b(a) and equipped with a fixed roof in combination with an internal floating roof shall meet the specifications listed in §60.112b(a)(1)(i)-(ix).	§ 60.113b(a)(1) [G]§ 60.113b(a)(3) § 60.113b(a)(4) § 60.113b(a)(5) § 60.116b(a) § 60.116b(b) § 60.116b(c) § 60.116b(e) § 60.116b(e)(1) § 60.116b(e)(2)(i)	§ 60.115b § 60.115b(a)(2) § 60.116b(a) § 60.116b(b) § 60.116b(c)	§ 60.113b(a)(5) § 60.115b § 60.115b(a)(1) § 60.115b(a)(4)
GRPTK3FW	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(6)(A) § 115.118(a)(7)	None
GRPTK4F	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(6)(A) § 115.118(a)(7)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPTKRO	EU	R5112-1	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 115, Storage of VOCs
GRPTKRO	EU	R5112-2	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 115, Storage of VOCs
GRPTKWW	EU	R5112-1	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 115, Storage of VOCs

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPTKWW	EU	R5112-2	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 115, Storage of VOCs
GRPTKWWIFR	EU	R5112-1	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 115, Storage of VOCs
GRPTKWWIFR	EU	R5112-2	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 115, Storage of VOCs	The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 115, Storage of VOCs

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
MRNFUG	EU	R5352	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(2) § 115.352(2)(A) [G]§ 115.352(2)(C) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(8)	No pump seals, contacting a process fluid with a TVP >0.044 psia and not equipped with a shaft seal system, shall be allowed to have a VOC leak, for more than 15 days after discovery, exceeding the specified VOC concentration.	§ 115.354(1) § 115.354(10) § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355	§ 115.352(7) § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) § 115.356(4)	None

Additional Monitoring Requirements

CAM Summary

Unit/Group/Process Information	
ID No.: GRPMARCLD	
Control Device ID No.: HFOVCU1	Control Device Type: Vapor Combustor
Control Device ID No.: HFOVCU2	Control Device Type: Vapor Combustor
Control Device ID No.: HFOVCU3	Control Device Type: Vapor Combustor
Control Device ID No.: HFOVCU4	Control Device Type: Vapor Combustor
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Loading and Unloading of VOC	SOP Index No.: R5211-1
Pollutant: VOC	Main Standard: § 115.212(a)(6)(A)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: once per day	
Averaging Period: n/a*	
Deviation Limit: Temperature in or immediately downstream of firebox < 1500 degrees F while loading crude oil.	
CAM Text: The monitoring device should be installed in the combustion chamber or immediately downstream of the combustion chamber. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent, and shall be accurate to within one of the following: ± 2% of reading; or ± 2.5 degrees Celsius.	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: GRPSHIPVCU	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-1
Pollutant: PM (OPACITY)	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Visible Emissions	
Minimum Frequency: Once per week	
Averaging Period: n/a	
Deviation Limit: Opacity greater than 15% averaged over a six-minute period.	
Periodic Monitoring Text: Visible emissions observations shall be made and recorded. Note that to properly determine the presence of visible emissions, all sources must be in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 miles, away from the emission source during the observation. The observer shall select a position where the sun is not directly in the observer's eyes. If the observations cannot be conducted due to weather conditions, the date, time, and specific weather conditions shall be recorded. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. If visible emissions are observed, the permit holder shall report a deviation. As an alternative, the permit holder may determine the opacity consistent with Test Method 9, as soon as practicable, but no later than 24 hours after observing visible emissions. If the result of the Test Method 9 is an opacity above the corresponding opacity limit, the permit holder shall report a deviation.	

Permit Shield

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
GRPBOIL	HFOBOILER101, HFOBOILER102, HFOBOILER103, HFOBOILER104	40 CFR Part 60, Subpart D	Maximum heat input is less than 250 MMBtu/hr
GRPBOIL	HFOBOILER101, HFOBOILER102, HFOBOILER103, HFOBOILER104	40 CFR Part 60, Subpart Da	Not an electric utility steam generating unit.
GRPBOIL	HFOBOILER101, HFOBOILER102, HFOBOILER103, HFOBOILER104	40 CFR Part 60, Subpart Db	Maximum heat input is less than 100 MMBtu/hr
GRPBOIL	HFOBOILER101, HFOBOILER102, HFOBOILER103, HFOBOILER104	40 CFR Part 60, Subpart Dc	Commenced construction prior to June 9, 1989
GRPLNDLDW	HFORCARLD3, HFOTTRCLD3	40 CFR Part 63, Subpart Y	The site is not a major source of Hazardous Air Pollutants.
GRPMARLD	HFOBARGLD1, HFOBARGLD2, HFOBARGLD3, HFOBARGLD4, HFOBARGLD5, HFOSHIPLD1, HFOSHIPLD2, HFOSHIPLD3	40 CFR Part 63, Subpart Y	The site is not a major source of Hazardous Air Pollutants.
GRPMARLDW	HFOBARGLD6	40 CFR Part 63, Subpart Y	The site is not a major source of Hazardous Air Pollutants.
GRPSD	HFOSD01	40 CFR Part 63, Subpart T	Does not use a halogenated HAP containing solvent.

Permit Shield

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Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
GRPSDW	HFOSDW02	40 CFR Part 63, Subpart T	Does not use a halogenated HAP containing solvent.
GRPTK2F	HFOTK00301, HFOTK01101, HFOTK08001, HFOTK08002, HFOTK08003, HFOTK08004, HFOTK08005, HFOTK08006, HFOTK08007, HFOTK08008, HFOTK08009, HFOTK08010, HFOTK08011, HFOTK08012, HFOTK08013, HFOTK08014, HFOTK08015, HFOTK08016, HFOTK08017, HFOTK08018, HFOTK08019, HFOTK20001, HFOTK20002, HFOTK20003, HFOTK20004, HFOTK25005, HFOTK25006, HFOTK25007, HFOTK25008	40 CFR Part 60, Subpart K	Does not store petroleum liquids.
GRPTK2F	HFOTK00301, HFOTK01101, HFOTK08001, HFOTK08002, HFOTK08003, HFOTK08004, HFOTK08005, HFOTK08006, HFOTK08007, HFOTK08008, HFOTK08009, HFOTK08010, HFOTK08011, HFOTK08012, HFOTK08013, HFOTK08014, HFOTK08015, HFOTK08016, HFOTK08017, HFOTK08018, HFOTK08019, HFOTK20001, HFOTK20002, HFOTK20003, HFOTK20004, HFOTK25005, HFOTK25006, HFOTK25007, HFOTK25008	40 CFR Part 60, Subpart Ka	Does not store petroleum liquids
GRPTK2F	HFOTK00301, HFOTK01101, HFOTK08001, HFOTK08002, HFOTK08003, HFOTK08004, HFOTK08005, HFOTK08006, HFOTK08007, HFOTK08008, HFOTK08009, HFOTK08010, HFOTK08011, HFOTK08012, HFOTK08013, HFOTK08014, HFOTK08015, HFOTK08016, HFOTK08017, HFOTK08018, HFOTK08019, HFOTK20001, HFOTK20002, HFOTK20003, HFOTK20004, HFOTK25005, HFOTK25006, HFOTK25007, HFOTK25008	40 CFR Part 60, Subpart Kb	Constructed prior to 07/23/1984
GRPTK3C	HFOTK40001, HFOTK400010, HFOTK40002, HFOTK40003, HFOTK40004, HFOTK40005, HFOTK40006, HFOTK40007, HFOTK40009	40 CFR Part 60, Subpart K	Constructed after 5/19/78
GRPTK3C	HFOTK40001, HFOTK400010, HFOTK40002, HFOTK40003, HFOTK40004, HFOTK40005, HFOTK40006, HFOTK40007, HFOTK40009	40 CFR Part 60, Subpart Ka	Constructed after 7/23/84
GRPTK3F	HFOTK26601, HFOTK26602, HFOTK32502	40 CFR Part 60, Subpart K	Does not store petroleum liquids.

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
GRPTK3F	HFOTK26601, HFOTK26602, HFOTK32502, HFOTK1001, HFOTK1301, HFOTK1302, HFOTK3011, HFOTK3012, HFOTK3013, HFOTK3014, HFOTK3015, HFOTK3016, HFOTK3017, HFOTK9501, HFOTK9502, HFOTK1001, HFOTK1301, HFOTK1302, HFOTK3011, HFOTK3012, HFOTK3013, HFOTK3014, HFOTK3015, HFOTK3016, HFOTK3017, HFOTK9501, HFOTK9502	40 CFR Part 60, Subpart Ka	Does not store petroleum liquids
GRPTK4F	HFOTK02001, HFOTK02002, HFOTK02003, HFOTK02004, HFOTK03001, HFOTK03002, HFOTK03003, HFOTK03004, HFOTK03005, HFOTK03006, HFOTK03701, HFOTK03702, HFOTK08020, HFOTK08021, HFOTK08022, HFOTK08023, HFOTK08024, HFOTK08025, HFOTK08026, HFOTK08027, HFOTK08028, HFOTK08029, HFOTK08030, HFOTK08031, HFOTK08032, HFOTK08033, HFOTK08034, HFOTK08035, HFOTK08036, HFOTK08037, HFOTK08038, HFOTK10001, HFOTK10002, HFOTK17501, HFOTK17502, HFOTK17503, HFOTK17504, HFOTK20005, HFOTK20006, HFOTK20007, HFOTK20008, HFOTK20009, HFOTK32501	40 CFR Part 60, Subpart Kb	Tank with capacity greater than or equal to 151 m^3 storing a liquid with a maximum vapor pressure less than 0.5 psia.
GRPTKD	HFODTK01, HFODTKCRK, HFODTKENG1, HFODTKENG2, HFODTKENG5	30 TAC Chapter 115, Storage of VOCs	Tank capacity is equal to or less than 1,000 gallons.
GRPTKD	HFODTK01, HFODTKCRK, HFODTKENG1, HFODTKENG2, HFODTKENG5	40 CFR Part 60, Subpart K	Tank capacity is less than 151,412 liters (40,000 gallons)
GRPTKD	HFODTK01, HFODTKCRK, HFODTKENG1, HFODTKENG2, HFODTKENG5	40 CFR Part 60, Subpart Ka	Tank capacity is less than 151,412 liters (40,000 gallons).
GRPTKD	HFODTK01, HFODTKCRK, HFODTKENG1, HFODTKENG2, HFODTKENG5	40 CFR Part 60, Subpart Kb	Tank capacity is less than 75 meter cube (19,812 gallons).

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
GRPTKD1	HFODRVENG1	40 CFR Part 60, Subpart K	Tank capacity is less than 151,412 liters (40,000 gallons).
GRPTKD1	HFODRVENG1	40 CFR Part 60, Subpart Ka	Tank capacity is less than 151,412 liters (40,000 gallons).
GRPTKD1	HFODRVENG1	40 CFR Part 60, Subpart Kb	Tank capacity is less than 75 meter cube (19,812 gallons).
GRPTKDW	HFOTKENGW6, HFOTKENGW7, HFOTKENGW8	30 TAC Chapter 115, Storage of VOCs	Tank capacity is less than 1,000 gallons.
GRPTKDW	HFOTKENGW6, HFOTKENGW7, HFOTKENGW8	40 CFR Part 60, Subpart K	Tank capacity is less than 151,412 liters (40,000 gallons).
GRPTKDW	HFOTKENGW6, HFOTKENGW7, HFOTKENGW8	40 CFR Part 60, Subpart Ka	Tank capacity is less than 151,412 liters (40,000 gallons).
GRPTKDW	HFOTKENGW6, HFOTKENGW7, HFOTKENGW8	40 CFR Part 60, Subpart Kb	Tank capacity is less than 75 meter cube (19,812 gallons).

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
GRPTKFO	HFOFOTK01, HFOFOTK02	30 TAC Chapter 115, Storage of VOCs	Tank capacity is equal to or less than 1,000 gallons.
GRPTKFO	HFOFOTK01, HFOFOTK02	40 CFR Part 60, Subpart K	Tank capacity is less than 151,412 liters (40,000 gallons).
GRPTKFO	HFOFOTK01, HFOFOTK02	40 CFR Part 60, Subpart Ka	Tank capacity is less than 151,412 liters (40,000 gallons).
GRPTKFO	HFOFOTK01, HFOFOTK02	40 CFR Part 60, Subpart Kb	Tank capacity is less than 75 meter cube (19,812 gallons).
GRPTKG	HFOGTK01	30 TAC Chapter 115, Storage of VOCs	Tank capacity is less than 1,000 gallons.
GRPTKG	HFOGTK01	40 CFR Part 60, Subpart K	Tank capacity is less than 151,412 liters (40,000 gallons).
GRPTKG	HFOGTK01	40 CFR Part 60, Subpart Ka	Tank capacity is less than 151,412 liters (40,000 gallons).

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
GRPTKG	HFOGTK01	40 CFR Part 60, Subpart Kb	Tank capacity is less than 75 meter cube (19,812 gallons).
GRPTKGW	HFOGTKW2	30 TAC Chapter 115, Storage of VOCs	Tank capacity is less than 1,000 gallons.
GRPTKGW	HFOGTKW2	40 CFR Part 60, Subpart K	Tank capacity is less than 151,412 liters (40,000 gallons).
GRPTKGW	HFOGTKW2	40 CFR Part 60, Subpart Ka	Tank capacity is less than 151,412 liters (40,000 gallons).
GRPTKGW	HFOGTKW2	40 CFR Part 60, Subpart Kb	Tank capacity is less than 75 meter cube (19,812 gallons).

New Source Review Authorization References

New Source Review Authorization References

The New Source Review authorizations listed in the table below are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Nonattainment (NA) Permits	
NA Permit No.: N57M2	Issuance Date: 04/26/2017
Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.	
Authorization No.: 5783	Issuance Date: 04/26/2017
Permits By Rule (30 TAC Chapter 106) for the Application Area	
Number: 106.183	Version No./Date: 09/04/2000
Number: 106.261	Version No./Date: 09/04/2000
Number: 106.261	Version No./Date: 11/01/2003
Number: 106.454	Version No./Date: 11/01/2001
Number: 106.472	Version No./Date: 03/14/1997
Number: 106.472	Version No./Date: 09/04/2000
Number: 106.473	Version No./Date: 03/14/1997
Number: 106.473	Version No./Date: 09/04/2000
Number: 106.478	Version No./Date: 03/14/1997
Number: 106.478	Version No./Date: 09/04/2000
Number: 106.511	Version No./Date: 09/04/2000
Number: 61	Version No./Date: 11/05/1986
Number: 61	Version No./Date: 09/12/1989

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
HFOBARGLD1	BARGE LOADING #1	5783, N57M2
HFOBARGLD2	BARGE LOADING #2	5783, N57M2
HFOBARGLD3	BARGE LOADING #3	5783, N57M2
HFOBARGLD4	BARGE LOADING #4	5783, N57M2
HFOBARGLD5	BARGE LOADING #5	5783, N57M2
HFOBARGLD6	BARGE LOADING #6	106.261/11/01/2003
HFOBOILER101	BOILER 101	5783, N57M2
HFOBOILER102	BOILER 102	5783, N57M2
HFOBOILER103	BOILER 103	5783, N57M2
HFOBOILER104	BOILER 104	5783, N57M2
HFOBOILER105	12.4 MMBTU/HR MIURA BOILER 105	106.183/09/04/2000
HFOBOILER106	12.4 MMBTU/HR MIURA BOILER 106	106.183/09/04/2000
HFOBOILER107	12.4 MMBTU/HR MIURA BOILER 107	106.183/09/04/2000
HFOBOILER108	12.4 MMBTU/HR MIURA BOILER 108	106.183/09/04/2000
HFOBOILER201	BOILER 201	106.183/09/04/2000
HFOBOILER202	BOILER 202	106.183/09/04/2000
HFOBOILER203	BOILER 203	106.183/09/04/2000
HFOBOILER204	BOILER 204	106.183/09/04/2000
HFOBOILER205	12.4 MMBTU/HR MIURA BOILER 205	106.183/09/04/2000

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
HFOBOILER206	12.4 MMBTU/HR MIURA BOILER 206	106.183/09/04/2000
HFOBOILER207	12.4 MMBTU/HR MIURA BOILER 207	106.183/09/04/2000
HFOBOILER208	12.4 MMBTU/HR MIURA BOILER 208	106.183/09/04/2000
HFOBRGDK7	BARGE DOCK 7	106.261/11/01/2003
HFODRVENG1	DIESEL RESERVOIR FOR ENG-1	106.473/09/04/2000
HFODTK01	PLANT EQUIPMENT DIESEL TANK	106.473/09/04/2000
HFODTKCRK	DIESEL TANK FOR ENG 3 AND ENG 4	106.473/09/04/2000
HFODTKENG1	DIESEL TANK FOR ENG-1	106.473/09/04/2000
HFODTKENG2	DIESEL TANK FOR ENG 2	106.473/09/04/2000
HFODTKENG5	DIESEL TANK FOR ENG 5	106.473/09/04/2000
HFOENG11	AREA 16 EMERGENCY GENERATOR ENGINE	106.511/09/04/2000
HFOENG1	SOUTH TERMINAL MAIN EMERGENCY GENERATOR ENGINE	106.511/09/04/2000
HFOENG2	SOUTH TERMINAL FIREWATER PUMP	106.511/09/04/2000
HFOENG3	SOUTH TERMINAL #3 PORTABLE EMERGENCY ENGINE	106.511/09/04/2000
HFOENG4	SOUTH TERMINAL #4 PORTABLE EMERGENCY ENGINE	106.511/09/04/2000
HFOENG5	NORTH TERMINAL FIREWATER PUMP	106.511/09/04/2000
HFOENGW10	WEST TERMINAL PORTABLE GENERATOR ENGINE	106.511/09/04/2000
HFOENGW6	WEST TERMINAL FIREWATER PUMP ENGINE BARGE DOCK 6	106.511/09/04/2000
HFOENGW7	WEST TERMINAL FIREWATER PUMP ENGINE BARGE DOCK 7	106.511/09/04/2000

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
HFOENGW8	WEST TERMINAL EMERGENCY GENERATOR ENGINE	106.511/09/04/2000
HFOENGW9	WEST TERMINAL PORTABLE GENERATOR ENGINE	106.511/09/04/2000
HFOFOTK01	EAST SIDE LOADING FUEL OIL SAMPLE ANK #1	106.473/09/04/2000
HFOFOTK02	EAST SIDE LOADING FUEL OIL SAMPLE TANK #2	106.473/09/04/2000
HFOGTK01	PLANT EQUIPMENT GASOLINE TANK	106.473/09/04/2000
HFOGTKW2	WEST TERMINAL GASOLINE TANK PLAN VEHICLES	106.473/09/04/2000
HFORCARLD1	RAIL CAR LOADING #1	5783, N57M2
HFORCARLD2	RAIL CAR LOADING #2	5783, N57M2
HFORCARLD3	RAIL CAR LOADING #3	106.472/09/04/2000
HFOSD01	SOLVENT DEGREASER #1	106.454/11/01/2001
HFOSDW02	SOLVENT DEGREASER #2	106.454/11/01/2001
HFOSHIPLD1	SHIP LOADING #1	5783, N57M2
HFOSHIPLD2	SHIP LOADING #2	5783, N57M2
HFOSHIPLD3	SHIP LOADING #3	5783, N57M2
HFOSHIPLD4	SHIP DOCK 4	106.261/11/01/2003
HFOSHPLD1C	CRUDE SHIP LOADING #1	5783, N57M2
HFOSHPLD2C	CRUDE SHIP LOADING #2	5783, N57M2
HFOSHPLD3C	CRUDE SHIP LOADING #3	5783, N57M2
HFOSHPLD4C	CRUDE SHIP UNLOADING #4	5783, N57M2

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
HFOSHPLD5C	CRUDE SHIP UNLOADING #5	5783, N57M2
HFOTK00301	STORAGE TANK #3-1	5783, N57M2
HFOTK01101	STORAGE TANK #11-1	5783, N57M2
HFOTK02001	STORAGE TANK #20-1	5783, N57M2
HFOTK02002	STORAGE TANK #20-2	5783, N57M2
HFOTK02003	STORAGE TANK #20-3	5783, N57M2
HFOTK02004	STORAGE TANK #20-4	5783, N57M2
HFOTK03001	STORAGE TANK #30-1	5783, N57M2
HFOTK03002	STORAGE TANK #30-2	5783, N57M2
HFOTK03003	STORAGE TANK #30-3	5783, N57M2
HFOTK03004	STORAGE TANK #30-4	5783, N57M2
HFOTK03005	STORAGE TANK #30-5	5783, N57M2
HFOTK03006	STORAGE TANK #30-6	5783, N57M2
HFOTK03018	TANK 30-18	106.472/09/04/2000
HFOTK03019	TANK 30-19	106.472/09/04/2000
HFOTK03701	STORAGE TANK #37-1	5783, N57M2
HFOTK03702	STORAGE TANK #37-2	5783, N57M2
HFOTK03801	TANK 38-1	106.472/09/04/2000
HFOTK08001	STORAGE TANK #80-1	5783, N57M2

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
HFOTK08002	STORAGE TANK #80-2	5783, N57M2
HFOTK08003	STORAGE TANK #80-3	5783, N57M2
HFOTK08004	STORAGE TANK #80-4	5783, N57M2
HFOTK08005	STORAGE TANK #80-5	5783, N57M2
HFOTK08006	STORAGE TANK #80-6	5783, N57M2
HFOTK08007	STORAGE TANK #80-7	5783, N57M2
HFOTK08008	STORAGE TANK #80-8	5783, N57M2
HFOTK08009	STORAGE TANK #80-9	5783, N57M2
HFOTK08010	STORAGE TANK #80-10	5783, N57M2
HFOTK08011	STORAGE TANK #80-11	5783, N57M2
HFOTK08012	STORAGE TANK #80-12	5783, N57M2
HFOTK08013	STORAGE TANK #80-13	5783, N57M2
HFOTK08014	STORAGE TANK #80-14	5783, N57M2
HFOTK08015	STORAGE TANK #80-15	5783, N57M2
HFOTK08016	STORAGE TANK #80-16	5783, N57M2
HFOTK08017	STORAGE TANK #80-17	5783, N57M2
HFOTK08018	STORAGE TANK #80-18	5783, N57M2
HFOTK08019	STORAGE TANK #80-19	5783, N57M2
HFOTK08020	STORAGE TANK #80-20	5783, N57M2

New Source Review Authorization References by Emissions Unit

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Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
HFOTK08021	STORAGE TANK #80-21	5783, N57M2
HFOTK08022	STORAGE TANK #80-22	5783, N57M2
HFOTK08023	STORAGE TANK #80-23	5783, N57M2
HFOTK08024	STORAGE TANK #80-24	5783, N57M2
HFOTK08025	STORAGE TANK #80-25	5783, N57M2
HFOTK08026	STORAGE TANK #80-26	5783, N57M2
HFOTK08027	STORAGE TANK #80-27	5783, N57M2
HFOTK08028	STORAGE TANK #80-28	5783, N57M2
HFOTK08029	STORAGE TANK #80-29	5783, N57M2
HFOTK08030	STORAGE TANK #80-30	5783, N57M2
HFOTK08031	STORAGE TANK #80-31	5783, N57M2
HFOTK08032	STORAGE TANK #80-32	5783, N57M2
HFOTK08033	STORAGE TANK #80-33	5783, N57M2
HFOTK08034	STORAGE TANK #80-34	5783, N57M2
HFOTK08035	STORAGE TANK #80-35	5783, N57M2
HFOTK08036	STORAGE TANK #80-36	5783, N57M2
HFOTK08037	STORAGE TANK #80-37	5783, N57M2
HFOTK08038	STORAGE TANK #80-38	5783, N57M2
HFOTK10001	TANK 100-1	106.472/09/04/2000

New Source Review Authorization References by Emissions Unit

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Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
HFOTK10002	TANK 100-2	106.472/09/04/2000
HFOTK10003	TANK 100-3	106.472/09/04/2000
HFOTK10004	TANK 100-4	106.472/09/04/2000
HFOTK10005	TANK 100-5	106.472/09/04/2000
HFOTK10006	TANK 100-6	106.472/09/04/2000
HFOTK10007	TANK 100-7	106.472/09/04/2000
HFOTK10008	TANK 100-8	106.472/09/04/2000
HFOTK10009	TANK 100-9	106.472/09/04/2000
HFOTK10010	TANK 100-10	106.472/09/04/2000
HFOTK10011	TANK 100-11	106.472/09/04/2000
HFOTK10012	TANK 100-12	106.472/09/04/2000
HFOTK10013	TANK 100-13	106.472/09/04/2000
HFOTK10014	TANK 100-14	106.472/09/04/2000
HFOTK10015	TANK 100-15	106.472/09/04/2000
HFOTK10016	TANK 100-16	106.472/09/04/2000
HFOTK10017	TANK 100-17	106.472/09/04/2000
HFOTK10018	TANK 100-18	106.472/09/04/2000
HFOTK10019	TANK 100-19	106.472/09/04/2000
HFOTK1001	STORAGE TANK #10-1	106.472/09/04/2000

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
HFOTK10020	TANK 100-20	106.472/09/04/2000
HFOTK10021	TANK 100-21	106.472/09/04/2000
HFOTK10022	TANK 100-22	106.472/09/04/2000
HFOTK10023	TANK 100-23	106.472/09/04/2000
HFOTK10024	TANK 100-24	106.472/09/04/2000
HFOTK1301	STORAGE TANK #13-1	106.472/09/04/2000
HFOTK1302	STORAGE TANK #13-2	106.472/09/04/2000
HFOTK17501	STORAGE TANK #175-1	5783, N57M2
HFOTK17502	STORAGE TANK #175-2	5783, N57M2
HFOTK17503	STORAGE TANK #175-3	5783, N57M2
HFOTK17504	STORAGE TANK #175-4	5783, N57M2
HFOTK20001	STORAGE TANK #200-1	5783, N57M2
HFOTK20002	STORAGE TANK #200-2	5783, N57M2
HFOTK20003	STORAGE TANK #200-3	5783, N57M2
HFOTK20004	STORAGE TANK #200-4	5783, N57M2
HFOTK20005	STORAGE TANK #200-5	5783, N57M2
HFOTK20006	STORAGE TANK #200-6	5783, N57M2
HFOTK20007	STORAGE TANK #200-7	5783, N57M2
HFOTK20008	STORAGE TANK #200-8	5783, N57M2

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
HFOTK20009	STORAGE TANK #200-9	5783, N57M2
HFOTK25001	STORAGE TANK #250-1	5783, N57M2
HFOTK25002	STORAGE TANK #250-2	5783, N57M2
HFOTK25003	STORAGE TANK #250-4	5783, N57M2
HFOTK25004	STORAGE TANK #250-4	5783, N57M2
HFOTK25005	STORAGE TANK #250-5	5783, N57M2
HFOTK25006	STORAGE TANK #250-6	5783, N57M2
HFOTK25007	STORAGE TANK #250-7	5783, N57M2
HFOTK25008	STORAGE TANK #250-8	5783, N57M2
HFOTK25009	STORAGE TANK #250-9	5783, N57M2
HFOTK25010	STORAGE TANK #250-10	5783, N57M2
HFOTK25011	STORAGE TANK #250-11	5783, N57M2
HFOTK25012	STORAGE TANK #250-12	5783, N57M2
HFOTK25013	STORAGE TANK #250-13	5783, N57M2
HFOTK25014	STORAGE TANK #250-14	5783, N57M2
HFOTK26601	STORAGE TANK #266-1	5783, N57M2
HFOTK26602	STORAGE TANK #266-2	5783, N57M2
HFOTK3011	STORAGE TANK #3011	106.472/09/04/2000
HFOTK3012	STORAGE TANK #30-12	106.472/09/04/2000

New Source Review Authorization References by Emissions Unit

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Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
HFOTK3013	STORAGE TANK #30-13	106.472/09/04/2000
HFOTK3014	STORAGE TANK #30-14	106.472/09/04/2000
HFOTK3015	STORAGE TANK #30-15	106.472/09/04/2000
HFOTK3016	STORAGE TANK #30-16	106.472/09/04/2000
HFOTK3017	STORAGE TANK #30-16	106.472/09/04/2000
HFOTK32501	STORAGE TANK #325-1	5783, N57M2
HFOTK32502	STORAGE TANK #325-2	5783, N57M2
HFOTK400010	STORAGE TANK #400-10	5783, N57M2
HFOTK40001	STORAGE TANK #400-1	5783, N57M2
HFOTK40002	STORAGE TANK #400-2	5783, N57M2
HFOTK40003	STORAGE TANK #400-3	5783, N57M2
HFOTK40004	STORAGE TANK #400-4	5783, N57M2
HFOTK40005	STORAGE TANK #400-5	5783, N57M2
HFOTK40006	STORAGE TANK #400-6	5783, N57M2
HFOTK40007	STORAGE TANK #400-7	5783, N57M2
HFOTK40009	STORAGE TANK #400-9	5783, N57M2
HFOTK40011	STORAGE TANK #400-11	5783, N57M2
HFOTK40012	STORAGE TANK #400-12	5783, N57M2
HFOTK40013	STORAGE TANK #400-13	5783, N57M2

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
HFOTK9001	TANK 90-1	106.472/09/04/2000
HFOTK9002	TANK 90-2	106.472/09/04/2000
HFOTK9501	STORAGE TANK #95-1	106.472/09/04/2000
HFOTK9502	STORAGE TANK #95-2	106.472/09/04/2000
HFOTKENGW6	WEST TERMINAL BARGE DOCK DIESEL STORAGE TANK FOR E	106.473/09/04/2000
HFOTKENGW7	WEST TERMINAL BARGE DOCK DIESEL STORAGE TANK FOR E	106.473/09/04/2000
HFOTKENGW8	WEST TERMINAL BARGE DOCK DIESEL STORAGE TANK FOR E	106.473/09/04/2000
HFOTKW301	TANK W30-1	106.472/09/04/2000
HFOTKW302	TANK W30-2	106.472/09/04/2000
HFOTKW303	TANK W30-3	106.472/09/04/2000
HFOTTRCLD1	TANK TRUCK LOADING #1	5783, N57M2
HFOTTRCLD2	TANK TRUCK LOADING #2	5783, N57M2
HFOTTRCLD3	TANK TRUCK LOADING #3	106.472/09/04/2000
HFOVCU1	SHIP LOADING VAPOR COMBUSTOR	5783, N57M2
HFOVCU2	SHIP LOADING VAPOR COMBUSTOR	5783, N57M2
HFOVCU3	SHIP LOADING VAPOR COMBUSTOR	5783, N57M2
HFOVCU4	SHIP LOADING VAPOR COMBUSTOR	5783, N57M2
HFOW-WWT6-1	TANK W6-1	106.472/09/04/2000
HFOW-WWT648	WWTS WEST - TANK 648	106.472/09/04/2000

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
HFOW-WWT9-3	TANK W9-3	106.472/09/04/2000
HFOW-WWTIOT	WWTS WEST - INTERMIDIATE OIL TANK	106.472/09/04/2000
HFOW-WWTOCT	WWTS WEST - OIL COLLECTION TANK	106.472/09/04/2000
MRNFUG	TERMINAL FUGITIVES	5783, N57M2

Appendix A

Acronym List

The following abbreviations or acronyms may be used in this permit:

ACFM ..... actual cubic feet per minute
AMOC ..... alternate means of control
ARP ..... Acid Rain Program
ASTM ..... American Society of Testing and Materials
B/PA ..... Beaumont/Port Arthur (nonattainment area)
CAM ..... Compliance Assurance Monitoring
CD ..... control device
COMS ..... continuous opacity monitoring system
CVS ..... closed-vent system
D/FW ..... Dallas/Fort Worth (nonattainment area)
DR ..... Designated Representative
ElP ..... El Paso (nonattainment area)
EP ..... emission point
EPA ..... U.S. Environmental Protection Agency
EU ..... emission unit
FCAA Amendments ..... Federal Clean Air Act Amendments
FOP ..... federal operating permit
GF ..... grandfathered
gr/100 scf ..... grains per 100 standard cubic feet
HAP ..... hazardous air pollutant
H/G/B ..... Houston/Galveston/Brazoria (nonattainment area)
H_2S ..... hydrogen sulfide
ID No. ..... identification number
lb/hr ..... pound(s) per hour
MMBtu/hr ..... Million British thermal units per hour
MRRT ..... monitoring, recordkeeping, reporting, and testing
NA ..... nonattainment
N/A ..... not applicable
NADB ..... National Allowance Data Base
NO_x ..... nitrogen oxides
NSPS ..... New Source Performance Standard (40 CFR Part 60)
NSR ..... New Source Review
ORIS ..... Office of Regulatory Information Systems
Pb ..... lead
PBR ..... Permit By Rule
PM ..... particulate matter
ppmv ..... parts per million by volume
PSD ..... prevention of significant deterioration
RO ..... Responsible Official
SO_2 ..... sulfur dioxide
TCEQ ..... Texas Commission on Environmental Quality
TSP ..... total suspended particulate
TVP ..... true vapor pressure
U.S.C. ..... United States Code
VOC ..... volatile organic compound

Appendix B

Major NSR Summary Table

Permit Number: 5783, N57M2			Issuance Date: 4/26/2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
B-101	Boiler	NO_x	0.71	3.12	3	3, 35, 36	3
		CO	0.01	0.01			
		SO_2	0.01	0.06			
		PM	0.19	0.82			
		PM_{10}	0.19	0.82			
		$PM_{2.5}$	0.19	0.82			
		VOC	0.13	0.59			
B-102	Boiler	NO_x	0.78	3.39	3	3, 35, 36	3
		CO	0.01	0.01			
		SO_2	0.01	0.06			
		PM	0.19	0.82			
		PM_{10}	0.19	0.82			
		$PM_{2.5}$	0.19	0.82			
		VOC	0.13	0.59			
B-103	Boiler	NO_x	0.53	2.30	3	3, 35, 36	3
		CO	0.31	1.36			
		SO_2	0.01	0.06			
		PM	0.19	0.82			
		PM_{10}	0.19	0.82			
		$PM_{2.5}$	0.19	0.82			
		VOC	0.13	0.59			

Major NSR Summary Table

Permit Number: 5783, N57M2			Issuance Date: 4/26/2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
B-104	Boiler	NO_x	0.55	2.41	3	3, 35, 36	3
		CO	0.50	2.19			
		SO_2	0.01	0.06			
		PM	0.19	0.82			
		PM_{10}	0.19	0.82			
		$PM_{2.5}$	0.19	0.82			
		VOC	0.13	0.59			
B-201	Boiler	NO_x	0.27	---	3	3, 35, 36	3
		CO	0.07	---			
		SO_2	0.01	---			
		PM	0.09	---			
		PM_{10}	0.09	---			
		$PM_{2.5}$	0.09	---			
		VOC	0.07	---			
B-202	Boiler	NO_x	0.23	---	3	3, 35, 36	3
		CO	0.24	---			
		SO_2	0.01	---			
		PM	0.09	---			
		PM_{10}	0.09	---			
		$PM_{2.5}$	0.09	---			
		VOC	0.07	---			

Major NSR Summary Table

Permit Number: 5783, N57M2			Issuance Date: 4/26/2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
B-203	Boiler	NO_x	0.26	---	3	3, 35, 36	3
		CO	0.13	---			
		SO_2	0.01	---			
		PM	0.09	---			
		PM_{10}	0.09	---			
		$PM_{2.5}$	0.09	---			
		VOC	0.07	---			
B-204	Boiler	NO_x	0.20	---	3	3, 35, 36	3
		CO	0.06	---			
		SO_2	0.01	---			
		PM	0.09	---			
		PM_{10}	0.09	---			
		$PM_{2.5}$	0.09	---			
		VOC	0.07	---			
B-201/2/3/4	Boilers 201, 202, 203, and 204 Annual Cap	NO_x	---	3.39	3	3, 35, 36	3
		CO	---	1.78			
		SO_2	---	0.10			
		PM	---	1.29			
		PM_{10}	---	1.29			
		$PM_{2.5}$	---	1.29			
		VOC	---	0.94			

Major NSR Summary Table

Permit Number: 5783, N57M2			Issuance Date: 4/26/2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
B-105	Boiler	NO_x	0.26	1.14	3	3, 35, 36	3
		CO	0.08	0.35			
		SO_2	0.01	0.03			
		PM	0.09	0.40			
		PM_{10}	0.09	0.40			
		$PM_{2.5}$	0.09	0.40			
		VOC	0.07	0.29			
B-106	Boiler	NO_x	0.26	1.14	3	3, 35, 36	3
		CO	0.07	0.31			
		SO_2	0.01	0.03			
		PM	0.09	0.40			
		PM_{10}	0.09	0.40			
		$PM_{2.5}$	0.09	0.40			
		VOC	0.07	0.29			
B-107	Boiler	NO_x	0.24	1.03	3	3, 35, 36	3
		CO	0.05	0.23			
		SO_2	0.01	0.03			
		PM	0.09	0.40			
		PM_{10}	0.09	0.40			
		$PM_{2.5}$	0.09	0.40			
		VOC	0.07	0.29			

Major NSR Summary Table

Permit Number: 5783, N57M2			Issuance Date: 4/26/2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
B-108	Boiler	NO_x	0.24	1.03	3	3, 35, 36	3
		CO	0.07	0.30			
		SO_2	0.01	0.03			
		PM	0.09	0.40			
		PM_{10}	0.09	0.40			
		$PM_{2.5}$	0.09	0.40			
		VOC	0.07	0.29			
T20-1	Fixed Roof (FR) Tank	VOC	11.71	---	3	3, 10, 35, 36	3
T20-2	FR Tank	VOC	11.71	---	3	3, 10, 35, 36	3
T20-3	FR Tank	VOC	11.71	---	3	3, 10, 35, 36	3
T20-4	FR Tank	VOC	11.71	---	3	3, 10, 35, 36	3
T30-1	FR Tank	VOC	11.71	---	3	3, 10, 35, 36	3
T30-2	FR Tank	VOC	11.71	---	3	3, 10, 35, 36	3
T80-1	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-2	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-3	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-4	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-5	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-6	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-7	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-8	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-9	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-10	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3

Major NSR Summary Table

Permit Number: 5783, N57M2			Issuance Date: 4/26/2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
T80-11	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-12	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-13	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-14	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-15	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-16	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-17	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-18	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-19	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-20	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-21	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-22	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-23	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-24	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-25	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-26	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-27	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-28	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-29	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-30	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-31	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-32	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-33	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-34	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3

Major NSR Summary Table

Permit Number: 5783, N57M2			Issuance Date: 4/26/2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
T80-35	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-36	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-37	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T80-38	FR Tank	VOC	35.14	---	3	3, 10, 35, 36	3
T175-1	FR Tank	VOC	46.86	---	3	3, 10, 35, 36	3
T175-2	FR Tank	VOC	46.86	---	3	3, 10, 35, 36	3
T175-3	FR Tank	VOC	46.86	---	3	3, 10, 35, 36	3
T175-4	FR Tank	VOC	46.86	---	3	3, 10, 35, 36	3
T200-1	FR Tank	VOC	58.57	---	3	3, 10, 35, 36	3
T200-2	FR Tank	VOC	58.57	---	3	3, 10, 35, 36	3
T200-3	FR Tank	VOC	58.57	---	3	3, 10, 35, 36	3
T200-4	FR Tank	VOC	58.57	---	3	3, 10, 35, 36	3
T200-5	FR Tank	VOC	58.57	---	3	3, 10, 35, 36	3
T200-6	FR Tank	VOC	58.57	---	3	3, 10, 35, 36	3
T200-7	FR Tank	VOC	58.57	---	3	3, 10, 35, 36	3
T200-8	FR Tank	VOC	58.57	---	3	3, 10, 35, 36	3
T200-9	FR Tank	VOC	58.57	---	3	3, 10, 35, 36	3
T250-5	FR Tank	VOC	58.57	---	3	3, 10, 35, 36	3
T250-6	FR Tank	VOC	58.57	---	3	3, 10, 35, 36	3
T250-7	FR Tank	VOC	58.57	---	3	3, 10, 35, 36	3
T250-8	FR Tank	VOC	58.57	---	3	3, 10, 35, 36	3
TTRC-1	T/T Load	VOC	3.07	---	3, 13	3, 10, 24, 26, 35, 36	3
TTRC-2	T/T Load	VOC	4.80	---	3,	3, 10, 24, 26, 35, 36	3

Major NSR Summary Table

Permit Number: 5783, N57M2			Issuance Date: 4/26/2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
Source Group Total (VOC) (6)				57.20			
T30-3	FR Tank	VOC	23.43	---	3	3, 10, 35, 36	3
T30-4	FR Tank	VOC	23.43	---	3	3, 10, 35, 36	3
T30-5	FR Tank	VOC	23.43	---	3	3, 10, 35, 36	3
T30-6	FR Tank	VOC	23.43	---	3	3, 10, 35, 36	3
T250-1	Internal Floating Roof (IFR) Tank	VOC	11.52	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T250-2	IFR Tank	VOC	11.88	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T250-3	IFR Tank	VOC	11.43	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T250-4	IFR Tank	VOC	11.43	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T250-9	IFR Tank	VOC	10.27	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T250-10	IFR Tank	VOC	10.27	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T250-11	IFR Tank	VOC	10.27	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T250-12	IFR Tank	VOC	10.27	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T250-13	IFR Tank	VOC	10.27	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T250-14	IFR Tank	VOC	10.27	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3

Major NSR Summary Table

Permit Number: 5783, N57M2			Issuance Date: 4/26/2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
T266-1	IFR Tank	VOC	11.24	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T266-2	IFR Tank	VOC	11.24	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T325-1	FR Tank	VOC	46.86	---	3	3, 10, 35, 36	3
T325-2	IFR Tank	VOC	11.84	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T400-1	IFR Tank	VOC	11.13	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T400-2	IFR Tank	VOC	11.13	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T400-3	IFR Tank	VOC	11.13	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T400-4	IFR Tank	VOC	11.13	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T400-5	IFR Tank	VOC	11.13	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T400-6	IFR Tank	VOC	9.39	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T400-7	IFR Tank	VOC	11.13	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T400-9	IFR Tank	VOC	11.13	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T400-10	IFR Tank	VOC	11.13	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3

Major NSR Summary Table

Permit Number: 5783, N57M2			Issuance Date: 4/26/2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
T400-11	IFR Tank	VOC	8.29	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T400-12	IFR Tank	VOC	8.29	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
T400-13	IFR Tank	VOC	8.29	---	3, 10, 11, 12, 13	3, 10, 11, 12, 13, 35, 36	3
Source Group Total (VOC) (7)				**145.55**			
T3-1	FR Tank	VOC	0.11	0.02	3	3, 10, 35, 36	3
T10-1	FR Tank	VOC	1.15	0.02	3	3, 10, 35, 36	3
T11-1	FR Tank	VOC	0.01	0.01	3	3, 10, 35, 36	3
T13-1	FR Tank	VOC	1.15	0.02	3	3, 10, 35, 36	3
T13-2	FR Tank	VOC	1.15	0.02	3	3, 10, 35, 36	3
T30-11	FR Tank	VOC	7.73	0.77	3	3, 10, 35, 36	3
T30-12	FR Tank	VOC	7.73	0.77	3	3, 10, 35, 36	3
T30-13	FR Tank	VOC	7.73	0.77	3	3, 10, 35, 36	3
T30-14	FR Tank	VOC	12.45	0.67	3	3, 10, 35, 36	3
T30-15	FR Tank	VOC	12.45	0.67	3	3, 10, 35, 36	3
T30-16	FR Tank	VOC	12.45	0.67	3	3, 10, 35, 36	3
T30-17	FR Tank	VOC	12.45	0.67	3	3, 10, 35, 36	3
T30-18	FR Tank	VOC	12.45	0.67	3	3, 10, 35, 36	3
T30-19	FR Tank	VOC	12.45	0.67	3	3, 10, 35, 36	3
T37-1	FR Tank	VOC	0.85	0.05	3	3, 10, 35, 36	3
T37-2	FR Tank	VOC	0.85	0.05	3	3, 10, 35, 36	3
T38-1	FR Tank	VOC	5.70	0.24	3	3, 10, 35, 36	3
T90-1	FR Tank	VOC	0.74	0.16	3	3, 10, 35, 36	3

Major NSR Summary Table

Permit Number: 5783, N57M2			Issuance Date: 4/26/2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
T90-2	FR Tank	VOC	0.74	0.16	3	3, 10, 35, 36	3
T95-1	FR Tank	VOC	12.45	2.14	3	3, 10, 35, 36	3
T95-2	FR Tank	VOC	12.45	2.14	3	3, 10, 35, 36	3
T100-1	FR Tank	VOC	12.45	0.85	3	3, 10, 35, 36	3
T100-2	FR Tank	VOC	12.45	0.85	3	3, 10, 35, 36	3
T100-3	FR Tank	VOC	12.45	2.24	3	3, 10, 35, 36	3
T100-4	FR Tank	VOC	12.45	2.24	3	3, 10, 35, 36	3
T100-5	FR Tank	VOC	0.09	0.17	3	3, 10, 35, 36	3
T100-6	FR Tank	VOC	0.09	0.17	3	3, 10, 35, 36	3
T100-7	FR Tank	VOC	0.09	0.17	3	3, 10, 35, 36	3
T100-8	FR Tank	VOC	0.09	0.17	3	3, 10, 35, 36	3
T100-9	FR Tank	VOC	0.09	0.17	3	3, 10, 35, 36	3
T100-10	FR Tank	VOC	0.09	0.17	3	3, 10, 35, 36	3
T100-11	FR Tank (8)	VOC	0.09	0.17	3	3, 10, 35, 36	3
T100-12	FR Tank (8)	VOC	0.09	0.17	3	3, 10, 35, 36	3
T100-13	FR Tank	VOC	0.09	0.10	3	3, 10, 35, 36	3
T100-14	FR Tank	VOC	0.09	0.10	3	3, 10, 35, 36	3
T100-15	FR Tank	VOC	0.09	0.10	3	3, 10, 35, 36	3
T100-16	FR Tank	VOC	0.09	0.10	3	3, 10, 35, 36	3
T100-17	FR Tank	VOC	0.09	0.10	3	3, 10, 35, 36	3
T100-18	FR Tank	VOC	0.09	0.10	3	3, 10, 35, 36	3
T100-19	FR Tank	VOC	0.09	0.10	3	3, 10, 35, 36	3
T100-20	FR Tank	VOC	0.09	0.10	3	3, 10, 35, 36	3
T100-21	FR Tank	VOC	3.11	2.09	3	3, 10, 35, 36	3

Major NSR Summary Table

Permit Number: 5783, N57M2			Issuance Date: 4/26/2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
T100-22	FR Tank	VOC	3.11	2.09	3	3, 10, 35, 36	3
T100-23	FR Tank	VOC	3.11	2.09	3	3, 10, 35, 36	3
T100-24	FR Tank	VOC	3.11	2.09	3	3, 10, 35, 36	3
T100-25	FR Tank	VOC	0.74	0.10	3	3, 10, 35, 36	3
T220-1	FR Tank	VOC	1.83	0.40	3	3, 10, 35, 36	3
W30-1	FR Tank	VOC	12.45	0.25	3	3, 10, 35, 36	3
W30-2	FR Tank	VOC	12.45	0.25	3	3, 10, 35, 36	3
SHIPLD-1	Ship Dock 1	VOC	13.97	---	3, 17, 20, 21, 22, 23	3, 20, 21, 23, 24, 26, 35, 36	3, 21
SHIPLD-2	Ship Dock 2	VOC	13.97	---	3, 17, 20, 21, 22, 23	3, 20, 21, 23, 24, 26, 35, 36	3, 21
SHIPLD-3	Ship Dock 3	VOC	13.97	---	3, 17, 20, 21, 22, 23	3, 20, 21, 23, 24, 26, 35, 36	3, 21
SHIPLD-1/2/3	Combined Ship Dock 1, 2, and 3 Cap	VOC	---	5.49	3, 17, 20, 21, 22, 23	3, 20, 21, 23, 24, 26, 35, 36	3, 21
SHIPLD-1C	Ship Dock 1 Crude Oil	VOC	15.56	---	3, 17, 18, 20, 21, 22, 23	3, 18, 20, 21, 23, 24, 25, 26, 35, 36	3, 21
SHIPLD-2C	Ship Dock 1 Crude Oil	VOC	15.56	---	3, 17, 18, 20, 21, 22, 23	3, 18, 20, 21, 23, 24, 25, 26, 35, 36	3, 21
SHIPLD-3C	Ship Dock 1 Crude Oil	VOC	15.56	---	3, 17, 18, 20, 21, 22, 23	3, 18, 20, 21, 23, 24, 25, 26, 35, 36	3, 21
SHIPLD-1/2/3C	Combined Ship Dock 1, 2, and 3 Crude Oil Loading Cap	VOC	31.12	20.99	3, 17, 18, 20, 21, 22, 23	3, 18, 20, 21, 23, 24, 25, 26, 35, 36	3, 21

Major NSR Summary Table

Permit Number: 5783, N57M2			Issuance Date: 4/26/2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
SHIPLD-4	Ship Dock 4	VOC	0.98	1.05	3, 17, 18, 20, 21, 22, 23	17, 8, 20, 23, 24, 35, 36	3, 21
BRGDK-2	Barge Dock 2	VOC	0.53	1.32	3, 17, 18, 20, 21, 22, 23	17, 8, 20, 23, 24, 35, 36	3, 21
BRGDK-3	Barge Dock 3	VOC	0.53	2.63	3, 17, 18, 20, 21, 22, 23	17, 8, 20, 23, 24, 35, 36	3, 21
BRGDK-4	Barge Dock 4	VOC	0.53	0.66	3, 17, 18, 20, 21, 22, 23	17, 8, 20, 23, 24, 35, 36	3, 21
BRGDK-5	Barge Dock 5	VOC	0.53	2.63	3, 17, 18, 20, 21, 22, 23	17, 8, 20, 23, 24, 35, 36	3, 21
BRGDK-6	Barge Dock 6	VOC	5.81	2.25	3, 17, 18, 20, 21, 22, 23	17, 8, 20, 23, 24, 35, 36	3, 21
BRGDK-7	Barge Dock 7	VOC	1.76	0.75	3, 17, 18, 20, 21, 22, 23	17, 8, 20, 23, 24, 35, 36	3, 21
TTRC-3	T/T R/C Load	VOC	6.97	1.05	3, 17	3, 24, 26, 35, 36	
FU-4	Fugitive Area	VOC (5)	0.49	2.14	3, 32, 33	3, 32, 33, 35, 36	3, 32, 33
FU-5	Crude Oil Fugitive Area	VOC (5)	0.04	0.16	3, 32, 33	3, 32, 33, 35, 36	3, 32, 33
TANKMSS-C	Controlled Tank MSS	VOC	26.47	0.40	11, 12, 13, 36	11, 12, 36	
VCU-1	VCU-1	VOC	1.55	---	3, 27, 29, 30, 31	3, 27, 29, 30, 31, 35, 36	3, 31
		NO_x	4.92	---			
		CO	4.92	---			
		SO_2	0.26	---			
		PM	3.20	---			
		PM_{10}	3.20	---			
		$PM_{2.5}$	3.20	---			

Major NSR Summary Table

Permit Number: 5783, N57M2			Issuance Date: 4/26/2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
VCU-2	VCU-2	VOC	1.55	---	3, 27, 29, 30, 31	3, 27, 29, 30, 31, 35, 36	3, 31
		NO_x	4.92	---			
		CO	4.92	---			
		SO_2	0.26	---			
		PM	3.20	---			
		PM_{10}	3.20	---			
		$PM_{2.5}$	3.20	---			
VCU-3	VCU-3	VOC	1.55	---	3, 27, 29, 30, 31	3, 27, 29, 30, 31, 35, 36	3, 31
		NOx	4.92	---			
		CO	4.92	---			
		SO_2	0.26	---			
		PM	3.20	---			
		PM_{10}	3.20	---			
		$PM_{2.5}$	3.20	---			
VCU-4	VCU-4	VOC	1.55	---	3, 27, 29, 30, 31	3, 27, 29, 30, 31, 35, 36	3, 31
		NOx	4.92	---			
		CO	4.92	---			
		SO_2	0.26	---			
		PM	3.20	---			
		PM_{10}	3.20	---			
		$PM_{2.5}$	3.20	---			

Major NSR Summary Table

Permit Number: 5783, N57M2			Issuance Date: 4/26/2017				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
VCU-1/2/3/4	Combined VCU 1, 2, 3, 4 Cap	VOC	6.19	4.18	3, 27, 29, 30, 31	3, 27, 29, 30, 31, 35, 36	3, 31
		NOx	19.66	11.42			
		CO	19.66	14.27			
		SO_2	1.02	0.32			
		PM	12.78	9.68			
		PM_{10}	12.78	9.68			
		$PM_{2.5}$	12.78	9.68			

Footnotes:

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code §101.1

NO_x - total oxides of nitrogen

SO_2 - sulfur dioxide

PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented

PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented

$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter

CO - carbon monoxide

(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.

(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

(6) The following EPNs are included in the annual cap of 57.20 tpy: T20-1 through T20-4, T30-1, T30-2, T80-1 through T80-38, T175-1 through T175-4, T200-1 through T200-9, T250-5 through T250-8, TTRC-1, and TTRC-2.

(7) The following EPNs are included in the annual cap of 145.55 tpy: T30-3 through T30-6, T250-1 through T250-4, T250-9 through T250-14, T266-1, T266-2, T325-1, T325-2, and T400-1 through T400-7, T400-9, and T400-11 through T400-13.

(8) The emission rates shown here for these EPNs (T100-11 and T100-12) are superseded by rates authorized in Permit By Rule 30 TAC §106.472, claimed by the applicant in December 2013.

Texas Commission on Environmental Quality
Air Quality Permit

A Permit Is Hereby Issued To
HFOTCO LLC
Authorizing the Construction and Operation of
Houston Fuel Oil Terminal
Located at **Houston, Harris County, Texas**
Latitude 29° 45′ 17″ Longitude −95° 6′ 44″

Permits: 5783 and N57M2

Amendment Date: April 26, 2017

Expiration Date: May 31, 2023

For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code (TAC) Section 116.116 (30 TAC § 116.116)] [1]
2. **Voiding of Permit**. A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1)the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of $5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120]
3. **Construction Progress**. Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]
4. **Start-up Notification**. The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]
5. **Sampling Requirements**. If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction in a timely manner; comply with any additional recordkeeping requirements specified in special conditions in the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]
8. **Maximum Allowable Emission Rates**. The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)] [1]
9. **Maintenance of Emission Control**. The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification in accordance with 30 TAC §101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC§ 116.115(b)(2)(G)]
10. **Compliance with Rules**. Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to "air pollution" as defined in Texas Health and Safety Code (THSC) §382.003(3) or violate THSC § 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit. [1]

[1] Please be advised that the requirements of this provision of the general conditions may not be applicable to greenhouse gas emissions.

Special Conditions

Permit Numbers 5783 and N57M2

1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates" (MAERT) and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit.

2. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing volatile organic compounds (VOC) at a concentration greater than 1 percent are not authorized by this permit unless authorized on the MAERT. Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions.

Federal Applicability

3. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources promulgated in Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60): **(03/16)**

   A. Subpart A: General Provisions,

   B. Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units,

   C. Subpart Ka: Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984, and

   D. Subpart Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984.

Operational Limitations

4. The service of the tanks included in the emissions cap of 57.20 tons per year (tpy) of VOC (EPNs T20-1 through T20-4, T30-1, T30-2, T80-1 through T80-38, T175-1 through T175-4, T200-1 through T200-9, T250-5 through T250-8, TTRC-1, and TTRC-2) is limited to the storage of chemicals appearing on the attached list entitled "Approved Chemicals for Storage" or chemicals that are authorized by Title 30 Texas Administrative Code Chapter 106 (30 TAC Chapter 106), Permits by Rule. Storage of other chemicals is prohibited unless prior approval for such storage is obtained from the Executive Director of the Texas Commission on Environmental Quality (TCEQ). **(04/17)**

5. Boilers shall be:

   A. fired with natural gas containing no more than 5 grains of total sulfur per 100 dry standard cubic feet (dscf), and

B. Boilers 201, 202, 203, and 204 (Emission Point Numbers [EPNs] B-201, B-202, B-203, and B-204) are limited to firing 347,597 million British Thermal Units (MMBtu), distributed among all 4 boilers, per rolling 12 month average. **(09/16)**

6. Ship Dock 5 is limited to unloading only of crude oil and petroleum products. No loading of products may occur at this dock. **(04/17)**

Storage Tanks

7. The combined fill or withdrawal rate for the tanks in crude oil service (EPNs T250-1 through T250-4, T250-9 through T250-14, T266-1, T266-2, T325-2, T400-1 through T400-7, and T400-9 through T400-13) shall not exceed 180,000 bbls/hr of crude oils. **(04/17)**

8. No more than 20 fixed roof tanks will be in Light Fuel Oil service simultaneously. Liquids stored in the remaining fixed roof tanks are limited to Heavy Fuel Oil service and may include cutter stock to reduce viscosity.

The maximum simultaneous filling of storage tanks with Light Fuel Oils shall be limited to 50,000 bbls/hr.

Heavy Fuel Oils include residual oil, No. 6 fuel oil, carbon black oil (CBO), heavy vacuum gas oil (HVGO), heavy cycle oil (HCO), slurry oil and blends.

Light Fuel Oils have a vapor pressure equal to or greater than 0.005 psia at 100 degree F and include No. 2 through 4 fuel oils, marine diesel oil (MDO), light vacuum gas oil (LVGO), light cycle oil (LCO), distillate oils and blends. **(03/16)**

9. Except as specified in Special Condition No. 4, storage tank service is limited to the following: **(04/17)**

Table 1. Storage Tank Content and Throughput in Barrels Per Hour

Storage Tanks	Content*	Throughput (bbl/hr)**
T3-1	Fuel Oils	143
T10-1	Fuel Oils	7,000
T11-1	Fuel Oils	71
T13-1 & T13-2	Fuel Oils	7,000
T20-1 through T20-4	Fuel Oils	5,000
T30-1 & T30-2	Fuel Oils	5,000
T30-3 through T30-6	Fuel Oils	10,000
T30-11 through T30-19	Fuel Oils	7,000
T37-1 & T37-2	Fuel Oils	7,000
T38-1	Fuel Oils	30,000
T80-1 through T80-38	Fuel Oils	15,000
T90-1 & T90-2	Fuel Oils	7,000
T95-1 & T95-2	Fuel Oils	7,000
T100-1 through T100-25	Fuel Oils	7,000
T175-1 through T175-4	Fuel Oils	20,000
T200-1 through T200-9	Fuel Oils	25,000
T220-1	Fuel Oils	15,000

Storage Tanks	Content*	Throughput (bbl/hr)**
T250-1 through T250-4	Crude Oils	45,000
T250-3 through T250-8	Fuel Oils	25,000
T250-9 through T250-14	Crude Oils	45,000
T266-1 & T266-2	Fuel Oils	15,000
	Crude Oils	45,000
T325-1 & T325-2	Fuel Oils	20,000
T325-2	Crude Oil	45,000
T400-1 through T400-6	Crude Oil	45,000
T400-7	Crude, Light Fuel Oils	45,000
	Heavy Fuel Oils	30,000
T400-9 through T400-13	Crude Oil	45,000
W30-1 & W30-2	Fuel Oils	7,000

* Fuel Oils include residual oil, No. 6 fuel oil, carbon black oil (CBO), heavy vacuum gas oil (HVGO), heavy cycle oil (HCO), slurry oil and blends, No. 2 through 4 fuel oils, marine diesel oil (MDO), light vacuum gas oil (LVGO), light cycle oil (LCO), and distillate oil and blends.

Heavy Fuel Oils include residual oil, No. 6 fuel oil, carbon black oil (CBO), heavy vacuum gas oil (HVGO), heavy cycle oil (HCO), slurry oil and blends.

Light Fuel Oils have a vapor pressure equal to or greater than 0.005 psia at 100 degree F and include No. 2 through 4 fuel oils, marine diesel oil (MDO), light vacuum gas oil (LVGO), light cycle oil (LCO), distillate oils and blends. **(03/16)**

** For groups of tanks, the throughput rate listed is per tank, unless otherwise specified in these conditions.

10. Storage tanks are subject to the following requirements: The control requirements specified in paragraphs A-D of this condition shall not apply (1) where the VOC has an aggregate partial pressure of less than 0.50 psia at the maximum feed temperature or 95°F, whichever is greater, or (2) to storage tanks smaller than 25,000 gallons.

A. An internal floating deck or "roof" or equivalent control shall be installed in all tanks. A domed external floating roof tank is equivalent to an internal floating roof tank. The floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: (1) a liquid-mounted seal, (2) two continuous seals mounted one above the other, or (3) a mechanical shoe seal. **(04/17)**

B. An open-top tank containing a floating roof (external floating roof tank) which uses double seal or secondary seal technology shall be an approved control alternative to an internal floating roof tank provided the primary seal consists of either a mechanical shoe seal or a liquid-mounted seal and the secondary seal is rim-mounted. A weathershield is not approvable as a secondary seal unless specifically reviewed and determined to be vapor-tight.

C. For any tank equipped with a floating roof, the permit holder shall perform the visual inspections and seal gap measurements as specified in Title 40 Code of Federal Regulations § 60.113b (40 CFR § 60.113b) Testing and Procedures (as amended at 54 FR 32973, Aug. 11, 1989) to verify fitting and seal integrity.

Records shall be maintained of the dates seals were inspected and seal gap measurements made, results of inspections and measurements made (including raw data), and actions taken to correct any deficiencies noted.

D. The floating roof design shall incorporate sufficient flotation to conform to the requirements of API Code 650 dated November 1, 1998 except that an internal floating cover need not be designed to meet rainfall support requirements and the materials of construction may be steel or other materials.

E. The following apply to the tanks in the 2017 permit action (EPNs T250-1, T250-2, T250-3, T250-4, , T250-9, T250-10, T250-11, T250-12, T250-13, T250-14, T266-1, T266-2, T325-2, T400-1, T400-2, T400-3, T400-4, T400-5, T400-6, T400-7, T400-9, T400-10, T400-11, T400-12, and T400-13): **(04/17)**

(1) Tanks shall be designed to completely drain its entire contents to a sump in a manner that leaves no more than 9 gallons of free-standing liquid in the tank or sump.

(2) Tanks shall be constructed or equipped with a connection to a vapor recovery system that routes vapors from the vapor space under the landed roof to a control device.

F. Uninsulated tank exterior surfaces exposed to the sun shall be white or aluminum. Storage tanks must be equipped with permanent submerged fill pipes.

G. The permit holder shall maintain an emissions record which includes calculated emissions of VOC from all storage tanks during the previous calendar month and the past consecutive 12 month period. The record shall include tank identification number, control method used, tank capacity in gallons, name of the material stored, VOC molecular weight, VOC monthly average temperature in degrees Fahrenheit, VOC vapor pressure at the monthly average material temperature in psia, VOC throughput for the previous month and year-to-date. Records of VOC monthly average temperature are not required to be kept for unheated tanks which receive liquids that are at or below ambient temperatures.

Emissions from tanks shall be calculated using the methods from AP-42 Chapter 7.1 that were used to determine the MAERT limits in the permit applications. Sample calculations from the application shall be attached to a copy of this permit at the plant site. **(09/16)**

Crude Oil Storage Tank Floating Roof Controls (04/17)

11. This permit authorizes emissions from EPN TANK MSS-C (associated with Crude Oil Storage Tanks as identified in Special Condition No. 9) during planned crude oil storage tank floating roof landings. Tank roof landings include all operations when the tank floating roof is on its supporting legs. These emissions are subject to the maximum allowable emission rates indicated in the MAERT. The following requirements apply to tank roof landings.

A. At all times that the roof is resting on its leg supports, the tank emissions shall be controlled by a closed vent system and control device meeting the following specifications:

(1) The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, § 60.485(b).

(2) The locations and identifiers of vents other than permanent roof fittings and seals, control device or controlled recovery system, and controlled exhaust stream shall be recorded. There shall be no other gas/vapor flow out of the vapor space under the floating roof when the vapor space is directed to the control device. When the tank is idle or the tank is being drained at a rate less than 500 bbl/hr, the vapor recovery system collection rate shall be no less than 100 cubic feet per minute. The liquid level may be maintained steady for a period of up to one hour if necessary to allow for valve lineups and pump changes necessary to drain the tank. When the tank is being refilled, the vapor recovery system collection rate shall be no less than two times the fill rate.

(3) The control device shall be operated as required by Special Condition No. 12.

The roof shall be landed on its lowest legs unless entry or inspection is planned.

The requirements of this paragraph do not apply to uncontrolled degassing and/or ventilation conducted pursuant to paragraphs B–E of this Special Condition.

B. After the tank has been completely emptied, the tank shall not be opened except as necessary to set up for degassing and cleaning. Floating roof tanks with liquid capacities less than 100,000 gallons may be degassed without control if the VOC partial pressure of the standing liquid in the tank has been reduced to less than 0.02 psia prior to ventilating the tank. Controlled degassing of the vapor space under the landed roof shall be completed as follows:

(1) Any gas or vapor removed from the vapor space under the floating roof must be routed to a control device or controlled recovery system and controlled degassing must be maintained until the VOC concentration is less than 10,000 ppmv or 10 percent of the LEL. The locations and identifiers of vents other than permanent roof fittings and seals, control device or controlled recovery system, and controlled exhaust stream shall be recorded. There shall be no other gas/vapor flow out of the vapor space under the floating roof when degassing to the control device or controlled recovery system.

(2) The vapor space under the floating roof shall be vented using good engineering practice to ensure air contaminants are flushed out of the tank through the control device or controlled recovery system to the extent allowed by the storage tank design.

(3) A volume of purge gas equivalent to twice the volume of the vapor space under the floating roof must have passed through the control device or into a controlled recovery system, before the vent stream may be sampled to verify acceptable VOC concentration. The measurement of purge gas volume shall not include any make-up air introduced into the

control device or recovery system. The VOC sampling and analysis shall be performed as specified in Special Condition No. 12.

(4) The sampling point shall be upstream of the inlet to the control device or controlled recovery system. The sample ports and the collection system must be designed and operated such that there is no air leakage into the sample probe or the collection system downstream of the process equipment or vessel being purged.

(5) Degassing must be performed every 24 hours unless there is no standing liquid in the tank or the VOC partial pressure of the remaining liquid in the tank is less than 0.15 psia.

C. The tank shall not be opened or ventilated without control, except as allowed below until one of the criteria in paragraph D of this condition is satisfied.

(1) Minimize air circulation in the tank vapor space.

(a) One manway may be opened to allow access to the tank to remove or de-volatilize the remaining liquid. Other manways or access points may be opened as necessary to remove or de-volatilize the remaining liquid. Wind barriers shall be installed at all open manways and access points to minimize air flow through the tank.

(b) Access points shall be closed when not in use.

D. The tank may be opened without restriction and ventilated without control after all standing liquid has been removed from the tank or the liquid remaining in the tank has a VOC partial pressure of less than 0.02 psia. These criteria shall be demonstrated in one of the following ways:

(1) Low VOC partial pressure liquid that is soluble with the liquid previously stored may be added to the tank to lower the VOC partial pressure of the liquid mixture remaining in the tank to less than 0.02 psia. This liquid shall be added during tank degassing if practicable. The estimated volume of liquid remaining in the drained tank and the volume and type of liquid added shall be recorded. The liquid VOC partial pressure may be estimated based on this information and engineering calculations.

(2) If water is added or sprayed into the tank to remove standing VOC, one of the following must be demonstrated:

(a) Take a representative sample of the liquid remaining in the tank and verify no visible sheen using the static sheen test from 40 CFR 435 Subpart A Appendix 1.

(b) Take a representative sample of the liquid remaining in the tank and verify that the hexane soluble VOC concentration is less than 1000 ppmw using EPA method 1664.

(c) Stop ventilation and close the tank for at least 24 hours. When the tank manway is opened after this period, verify that the VOC

concentration is less than 1000 ppmw through the procedure in Special Condition No. 12.

(3) No standing liquid, verified through visual inspection.

The permit holder shall maintain records to document the method used to release the tank.

E. The occurrence of each roof landing and the associated emissions shall be recorded and the rolling 12 month tank roof landing emissions shall be updated on a monthly basis. These records shall include at least the following information (as applicable):

(1) The identification of the tank and emission point number, and any control devices or controlled recovery systems used to reduce emissions;

(2) The reason for the tank roof landing;

(3) For the purpose of estimating emissions, the date, time, and other information specified for each of the following events:

(a) The roof was initially landed;

(b) All liquid was pumped from the tank to the extent practicable;

(c) Start and completion of controlled degassing, and total volumetric flow;

(d) All standing liquid was removed from the tank or any transfers of low VOC partial pressure liquid to or from the tank including volumes and vapor pressures to reduce tank liquid VOC partial pressure to < 0.02 psia.

(e) If there is liquid in the tank, VOC partial pressure of liquid, start and completion of uncontrolled degassing, and total volumetric flow;

(f) Refilling commenced, liquid filling the tank, and the volume necessary to float the roof; and

(g) Tank roof off supporting legs, floating on liquid.

(4) The estimated quantity of each air contaminant, or mixture of air contaminants, emitted between events (c) and (g) with the data and methods used to determine it. The emissions associated with roof landing activities shall be calculated using the methods described in Section 7.1.3.2 of AP-42 “Compilation of Air Pollution Emission Factors, Chapter 7—Storage of Organic Liquids” dated November 2006 (or later edition) and the permit application.

Carbon Adsorption (04/17)

12. During tank degassing and refilling, Crude Oil Storage Tanks as identified in Special Condition No. 9 shall vent through a carbon adsorption system (CAS) consisting of at least two activated carbon canisters that are connected in series.

    A. The CAS shall be sampled every hour to determine breakthrough of volatile organic compounds (VOC). The sampling point shall be at the outlet of the initial canister but before the inlet to the second or final polishing canister. Sampling shall be done during tank degassing and refilling.

    B. The VOC sampling and analysis shall be performed using an instrument with a flame ionization detector (FID), or a TCEQ-approved alternative detector. The instrument/FID must meet all requirements specified in Section 8.1 of EPA Method 21 (40 CFR 60, Appendix A). Sampling and analysis for VOC breakthrough shall be performed as follows:

        (1) Immediately prior to performing sampling, the instrument/FID shall be calibrated with zero and span calibration gas mixtures. Zero gas shall be certified to contain less than 0.1 ppmv total hydrocarbons. Span calibration gas shall be methane at a concentration within ± 10 percent of 100 ppmv, and certified by the manufacturer to be ± 2 percent accurate. Calibration error for the zero and span calibration gas checks must be less than ± 5 percent of the span calibration gas value before sampling may be conducted.

        (2) The sampling point shall be at the outlet of the initial canister but before the inlet to the second or final polishing canister. Sample ports or connections must be designed such that air leakage into the sample port does not occur during sampling.

        (3) During sampling, data recording shall not begin until after two times the instrument response time. The VOC concentration shall be monitored for at least 5 minutes, recording 1-minute averages, during tank degassing and refilling.

    C. Breakthrough shall be defined as the highest 1 minute average measured VOC concentration at or exceeding 100 ppmv. When the condition of breakthrough of VOC from the initial saturation canister occurs, the waste gas flow shall be switched to the second canister and a fresh canister shall be placed as the new final polishing canister within 30 minutes. Sufficient new activated carbon canisters shall be maintained at the site to replace spent carbon canisters such that replacements can be done in the above specified time frame.

    D. Records of the CAS monitoring maintained at the plant site, shall include (but are not limited to) the following:

        (1) Sample time and date.

        (2) Monitoring results (ppmv).

        (3) Corrective action taken including the time and date of that action.

(4) Process operations occurring at the time of sampling.

E. Alternate monitoring or sampling requirements that are equivalent or better may be approved by the TCEQ Regional Manager. Alternate requirements must be approved in writing before they can be used for compliance purposes.

13. A liquid scrubbing system may be used upstream of carbon adsorption. A single liquid scrubbing system and/or single carbon adsorption canister system may be used as the sole control device if the requirements below are satisfied.

A. The exhaust to atmosphere shall be monitored continuously and the VOC concentration recorded at least once every 15 minutes when waste gas is directed to the scrubber or canister.

B. An alarm shall be installed such that an operator is alerted when outlet VOC concentration exceeds 100 ppmv above background. The MSS activity shall be stopped as soon as possible when the VOC concentration exceeds 100 ppmv above background for more than one minute. The date and time of all alarms and the actions taken shall be recorded.

Marine Loading Operations

14. Loading operations are limited to the liquids identified below at the rates indicated. **(09/16)**

Table 2. Tank Truck, Rail Car, and Marine Loading Content and Throughput

Loading	Content*	Throughput (bbl/hr)
TTRC-1	Fuel Oils	3,340
TTRC-2	Fuel Oils	2,610
TTRC-3	Fuel Oils	7,072
SHIPLD-1	Light Fuel Oil	30,000
	Heavy Fuel Oil	60,000
SHIPLD-2	Light Fuel Oil	30,000
	Heavy Fuel Oil	60,000
SHIPLD-3	Fuel Oils	30,000
SHIPLD-1C	Crude Oil	30,000
SHIPLD-2C	Crude Oil	30,000
SHIPLD-3C	Crude Oil	30,000
SHIPLD-4	Fuel Oils	40,000
BRGDK-2	Fuel Oils	10,000
BRGDK-3	Fuel Oils	10,000
BRGDK-4	Fuel Oils	10,000
BRGDK-5	Fuel Oils	10,000
BRGDK-6	Fuel Oils	20,500

Loading	Content*	Throughput (bbl/hr)
BRGDK-7	Fuel Oils	7,000

*Oils as defined in Special Condition No. 8.

15. Simultaneous loading of No. 2 fuel oil at two ship docks with one being Ship Dock 3 shall be limited to 20,000 bbl/hr each, if no tanks are being filled. No more than one ship shall be loaded at Ship Docks 1, 2, or 3 with No. 2 fuel oil at the same time that storage tanks are filled with No. 2 fuel oil. **(03/16)**

16. Crude Oil Loading is limited as follows: **(09/16)**

    A. Simultaneous loading of crude oil shall be limited to two of the three ship docks (EPNs SHIPLD-1C, SHIPLD-2C, and SHIPLD-3C) at a time.

    B. Annual loading rate shall not exceed the following rates, based on the weighted annual average vapor pressure of the crude loaded:

        (1) 212,500,000 bbls/yr with weighted average vapor pressure of 4.0 psi or lower **(04/17)**

        (2) When loading crude oil with vapor pressure between 4.0 and 11.0 psi, throughput in bbls/yr shall not exceed 850,000,000 divided by the weighted average vapor pressure. **(04/17)**

    C. Crude oil with a vapor pressure greater than 11.00 psia shall not be stored on site or loaded onto ships.

17. All loading lines and connectors shall be visually inspected for any defects prior to hookup. Lines and connectors that are visibly damaged shall be removed from service. Operations shall cease immediately upon detection of any liquid leaking from the lines or connections.

18. Except when loading inerted ocean going vessels, a blower system shall be installed in the lines associated with and on Ship Dock Nos. 1, 2, and/or 3 (EPNs SHIPLD-1C, SHIPLD-2C, and/or SHIPLD-3C) when loading crude oil into barges which will produce a vacuum in the cargo tank during all loading operations. A pressure/vacuum gauge shall be installed on the suction side of the blower system adjacent to the vessel being loaded to verify a vacuum in that vessel. Loading shall not occur unless there is a vacuum of at least 1.5 inch water column being maintained by the vacuum-assist vapor collection system when loading vessels. The vacuum shall be recorded every 15 minutes during loading. **(09/16)**

19. Loading emissions of crude oil shall be collected from each vessel cargo tank being filled and vented to a vapor combustor that achieves 99.9% control efficiency in compliance with Special Condition No. 27. **(10/2014)**

Requirements for Testing the Collection Efficiency of Inerted Ocean-going Vessels

20. The following additional requirements apply to loading of a VOC which has a vapor pressure equal to or greater than 0.5 pounds per square inch absolute (psia) under actual storage conditions onto inerted marine vessels (ships). **(04/17)**

A. Before loading, the owner or operator of the marine terminal shall verify that the marine vessel has passed an annual vapor tightness test as specified in 40 CFR §63.565(c) (September 19, 1995) or 40 CFR §61.304(f) (October 17, 2000) within the previous twelve months.

B. The pressure at the vapor collection connection of an inerted marine vessel must be maintained such that the pressure in a vessels' cargo tanks do not go below 0.2 pounds per square inch gauge (psig) or exceed 80% of the lowest setting of any of the vessel's pressure relief valves. The lowest vessel cargo tank or vent header pressure relief valve setting for the vessel being loaded shall be recorded. Pressure shall be continuously monitored while the vessel is being loaded. Pressure shall be recorded at fifteen minute intervals.

C. VOC loading rates shall be recorded during loading. The loading rate must not exceed the maximum permitted loading rate.

D. During loading, the owner or operator of the marine terminal or of the marine vessel shall conduct audio, olfactory, and visual checks for leaks once every 8 hours for on-shore equipment and on board the ship.

(1) If a liquid leak is detected during loading and cannot be repaired immediately (for example, by tightening a bolt or packing gland), then the loading operation shall cease until the leak is repaired.

(2) If a vapor leak is detected by sight, sound, smell, or hydrocarbon gas analyzer during the loading operation, then a "first attempt" shall be made to repair the leak. Loading operations need not be ceased if the first attempt to repair the leak is not successful provided that the first attempt effort is documented by the owner or operator of the marine vessel and a copy of the repair log is made available to a representative of the marine terminal.

(3) If the attempt to repair the leak is not successful and loading continues, emissions from the loading operation for that ship shall be calculated assuming a collection efficiency of 95%.

(4) Date and time of each inspection shall be noted in the operator's log or equivalent. Records shall be maintained at the plant site of all repairs and replacements made due to leaks. These records shall be made available to representatives of the Texas Commission on Environmental Quality (TCEQ) upon request.

21. VOC collection efficiency tests of inerted ocean-going marine vessels shall be conducted as follows to demonstrate a collection efficiency of 99.5% or greater on both an hourly basis and an annual average basis. **(09/16)**

A. Testing shall be conducted using the protocol agreed to by the Executive Director. Any revision to the approved testing protocol shall require approval from the Executive Director prior to implementation. The permittee shall maintain a copy of the approved protocol on site. **(04/17)**

B. Complying test results shall be obtained in accordance with the protocol for a minimum of one vessel per year for 3 years. The first test shall be conducted

within twelve months of the first loading of an inerted ocean-going marine vessel. **(04/17)**

C. The results of the test shall be submitted to the TCEQ Regional Office with a copy to the TCEQ Air Permits Division within 60 days after completion of the test.

D. The TCEQ Regional Office must be notified at least 48 hours prior to testing. The facility owner or operator may request a waiver from the 48 hour advance notification requirement from the TCEQ Regional Office.

E. The permit holder shall maintain the following records for each ship tested for a period of 5 years from the date of testing:

(1) The most recent vapor tightness certificate;

(2) A recent, completed Standard Tanker Chartering Questionnaire form Q88; and

(3) Records of each incidence of testing conducted in accordance with this condition.

22. The following requirements apply if a test conducted per Special Condition No. 21 shows collection efficiency lower than assumed in permit emission calculations. **(04/17)**

A. Emissions from the tested ship shall be calculated at the measured collection efficiency instead of the efficiency assumed for permit calculations.

B. Emissions from future instances of ship loading shall continue to be calculated at the lower measured collection efficiency until a test result confirming the permitted collection efficiency is obtained.

C. As an alternative to assuming the lower measured collection efficiency for subsequent loading as specified in paragraph B, the regulated entity can assume the permitted collection efficiency in subsequent loading operations provided that the loading activity is monitored with an optical gas imaging instrument as defined in 30 TAC 115.358 and no leaks are observed. If a leak is observed, the lower measured collection efficiency must be used. The observations must occur during a minimum 6 hour period as close to the end of loading as possible.

Compliance with Emission Rate Limits for Marine Loading Activities

23. The vapor pressure of the material being loaded into inerted ocean-going vessels shall be tested at the highest vapor pressure expected to occur during the loading event. The highest vapor pressure reading shall be used to calculate emission rates. A vapor pressure test shall be conducted at least once per loading activity.

Or;

In lieu of the testing requirement described above, vapor pressure data provided by the owner of the crude oil can be recorded per loading activity. The vapor pressure shall be

used to calculate emission rates as represented in the application with PI-1 dated August 20, 2013 and subsequent submittals. **(10/2014)**

24. The permit holder shall maintain and update a monthly emissions record which includes calculated emissions of VOC from all loading operations over the previous rolling 12 month period. The record shall include the loading spot, control method used, quantity loaded in gallons, name of the liquid loaded, vapor molecular weight, liquid temperature in degrees Fahrenheit, liquid vapor pressure at the liquid temperature in psia, liquid throughput for each loading activity and rolling 12 months to date. Records of VOC temperature are not required to be kept for liquids loaded from unheated tanks which receive liquids that are at or below ambient temperatures. Emissions shall be calculated using the method represented in the application with PI-1 dated August 20, 2013 and subsequent submittals. Sample calculations from the application shall be attached to a copy of this permit at the terminal. **(10/2014)**

25. Separate records shall be maintained for all loading of crude oil onto inerted ocean-going marine vessels. The records shall be updated within 30 days after each ship loading activity or before a subsequent ship loading activity can begin, whichever is sooner. The record shall include the loading spot, control method used, quantity loaded in gallons, name of the liquid loaded, vapor molecular weight, liquid temperature in degrees Fahrenheit, liquid vapor pressure at the liquid temperature in psia, liquid throughput for each loading activity, liquid throughput for rolling 12 months to date, emissions from all ship loading activity for the rolling 12 months to date, and the weighted average vapor pressure for the rolling 12 months to date. The weighted average vapor pressure of material loaded shall be calculated as the sum of the throughput in barrels times the average vapor pressure in psi for each ship loading activity for the rolling 12-month period divided by the sum of the throughput for each ship loading activity for the rolling 12-month period. **(10/2014)**

$$\text{Weighted average VP} = \frac{\Sigma\,(\text{throughput} * \text{VP})}{\Sigma\text{throughput}}$$

26. Records of all testing conducted must be maintained for a period of 5 years. These records must be made available upon request by authorized representatives of the TCEQ, Air Permits Division or the Office of Compliance and Enforcement. **(10/2014)**

Vapor Combustor Unit (VCU) Specifications

27. The vapor combustors shall be designed and operated to achieve either a destruction efficiency of 99.9% of the waste gas streams directed to them or a maximum VOC exhaust concentration of 10 parts per million by volume (ppmv) on a dry basis, corrected to 3 percent oxygen. This shall be ensured by maintaining the temperature in, or immediately downstream of, the combustion chamber above 1500º F prior to the initial stack test performed in accordance with Special Condition No. 31. Following the completion of that stack test, the six minute average temperature shall be maintained above the minimum one hour average temperature maintained during the last satisfactory stack test. **(10/2014)**

    A. The temperature measurement device shall reduce the temperature readings to an averaging period of 6 minutes or less and record it at that frequency. The temperature monitor shall be installed, calibrated or have a calibration check performed at least annually, and maintained according to the manufacturer's

specifications. The device shall have an accuracy of the greater of ±2 percent of the temperature being measured expressed in degrees Celsius or ±2.5ºC.

B. Quality assured (or valid) data must be generated when the VCU is operating except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor break down, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the VCU operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

28. Emissions from the vapor combustors shall not exceed 0.1 lb NO_x/MMBtu on an hourly average or 0.08 lb NO_x/MMBtu on a rolling 12 month average. Compliance with this shall be demonstrated through the Initial Compliance testing required by Special Condition No. 31. **(09/16)**

29. The vapor combustors shall be operated with no visible emissions and have a constant pilot flame during all times waste gas could be directed to it. The pilot flame shall be continuously monitored by a thermocouple or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated or have a calibration check performed at a frequency in accordance with, the manufacturer's specifications. **(10/2014)**

30. The following requirements apply to capture systems for EPNs VCU-1, VCU-2, VCU-3, and VCU-4. **(09/16)**

A. The permit holder shall comply with the following:

(1) Conduct a once a month visual, audible, and/or olfactory inspection of the capture system to verify there are no leaking components in the capture system; or

(2) Once a year, verify the capture system is leak-free by inspecting in accordance with 40 CFR Part 60, Appendix A, Test Method 21. Leaks shall be indicated by an instrument reading greater than or equal to 500 ppmv above background.

B. The control device shall not have a bypass.

or

If there is a bypass for the control device, comply with either of the following requirements:

(1) Install a flow indicator that records and verifies zero flow at least once every fifteen minutes immediately downstream of each valve that if opened would allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere; or

(2) Once a month, inspect the valves, verifying that the position of the valves and the condition of the car seals prevent flow out the bypass.

A bypass does not include authorized analyzer vents, highpoint bleeder vents, low point drains, or rupture discs upstream of pressure relief valves if the pressure between the disc and relief valve is monitored and recorded at least weekly. A deviation shall be reported if the monitoring or inspections indicate bypass of the control device when it is required to be in service.

C. Records of the inspections required shall be maintained and if the results of any of the above inspections are not satisfactory, the permit holder shall promptly take necessary corrective action.

Initial Demonstration of Compliance

31. The permit holder shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from EPNs VCU-1, VCU-2, VCU-3, and VCU-4 to demonstrate compliance with the MAERT and with either a 99.9 weight percent VOC destruction efficiency or maximum VOC exhaust gas concentration limit of 10 ppmv on a dry basis, corrected to 3 percent oxygen. The permit holder is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and the U.S. Environmental Protection Agency (EPA) Reference Methods. **(09/16)**

Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Air, Air Permits Division. Test waivers and alternate/equivalent procedure proposals for Title 40 Code of Federal Regulation Part 60 (40 CFR Part 60) testing which must have EPA approval shall be submitted to the TCEQ Regional Director.

A. The appropriate TCEQ Regional Office shall be notified not less than 45 days prior to sampling. The notice shall include:

(1) Proposed date for pretest meeting.

(2) Date sampling will occur.

(3) Name of firm conducting sampling.

(4) Type of sampling equipment to be used.

(5) Method or procedure to be used in sampling.

(6) Description of any proposed deviation from the sampling procedures specified in this permit or TCEQ/EPA sampling procedures.

(7) Procedure/parameters to be used to determine worst case during the sampling period.

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for the test reports. The TCEQ Regional Director must approve any deviation from specified sampling procedures.

B. Air contaminants emitted from EPNs VCU-1, VCU-2, VCU-3, and VCU-4 to be tested for include (but are not limited to) nitrogen oxides (NO_x), sulfur dioxides (SO_2), carbon monoxide (CO), particulate matter (PM), and volatile organic compounds (VOCs).

C. Sampling shall occur within 60 days after achieving the maximum loading rate, but no later than 180 days after initial start-up of the facilities and at such other times as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the appropriate regional office.

D. The facility being sampled shall operate at maximum throughput rate during stack emission testing. These conditions/parameters and any other primary operating parameters that affect the emission rate shall be monitored and recorded during the stack test. Any additional parameters shall be determined at the pretest meeting and shall be stated in the sampling report. Permit conditions and parameter limits may be waived during stack testing performed under this condition if the proposed condition/parameter range is identified in the test notice specified in paragraph A and accepted by the TCEQ Regional Office. Permit allowable emissions and emission control requirements are not waived and still apply during stack testing periods.

During subsequent operations, if the loading rate is greater than that recorded during the test period, stack sampling shall be performed at the new operating conditions within 120 days. This sampling may be waived by the TCEQ Air Section Manager for the region.

E. Copies of the final sampling report shall be forwarded to the offices below within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions entitled “Chapter 14, Contents of Air Emission Test Reports” of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:

(1) One copy to the appropriate TCEQ Regional Office.

(2) One copy to each local air pollution control program.

F. Sampling ports and platform(s) shall be incorporated into the design of EPNs VCU-1, VCU-2, VCU-3, and VCU-4 according to the specifications set forth in the manual entitled “Chapter 2, Guidelines for Stack Sampling Facilities” of the TCEQ Sampling Procedures Manual. Alternate sampling facility designs must be submitted for approval to the TCEQ Regional Director.

Piping, Valves, Pumps, Agitators, and Compressors - Intensive Directed Maintenance - 28LAER (09/16)

32. Except as may be provided for in the Special Conditions of this permit, the following requirements apply to the above-referenced equipment:

A. The requirements of paragraphs F and G shall not apply (1) where the VOC has an aggregate partial pressure or vapor pressure of less than 0.044 pounds per square inch, absolute (psia) at 68°F or (2) operating pressure is at least 5 kilopascals (0.725 psi) below ambient pressure. Equipment excluded from this

condition shall be identified in a list or by one of the methods described below to be made readily available upon request.

The exempted components may be identified by one or more of the following methods:

(1) piping and instrumentation diagram (PID);

(2) a written or electronic database or electronic file;

(3) color coding;

(4) a form of weatherproof identification; or

(5) designation of exempted process unit boundaries.

B. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes.

C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical. New and reworked buried connectors shall be welded.

D. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Difficult-to-monitor and unsafe-to-monitor valves, as defined by 30 TAC Chapter 115, shall be identified in a list to be made readily available upon request. The difficult-to-monitor and unsafe-to-monitor valves may be identified by one or more of the methods described in subparagraph A above. If an unsafe to monitor component is not considered safe to monitor within a calendar year, then it shall be monitored as soon as possible during safe to monitor times. A difficult to monitor component for which quarterly monitoring is specified may instead be monitored annually.

E. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. Gas or hydraulic testing of the new and reworked piping connections at no less than operating pressure shall be performed prior to returning the components to service or they shall be monitored for leaks using an approved gas analyzer within 15 days of the components being returned to service. Adjustments shall be made as necessary to obtain leak-free performance.

Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through. In addition, all connectors shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer with a directed maintenance program in accordance with items F thru J of this special condition.

In lieu of the monitoring frequency specified above, connectors may be monitored on a semiannual basis if the percent of connectors leaking for two consecutive quarterly monitoring periods is less than 0.5 percent.

Connectors may be monitored on an annual basis if the percent of connectors leaking for two consecutive semiannual monitoring periods is less than 0.5 percent.

If the percent of connectors leaking for any semiannual or annual monitoring period is 0.5 percent or greater, the facility shall revert to quarterly monitoring until the facility again qualifies for the alternative monitoring schedules previously outlined in this paragraph.

The percent of connectors leaking used in paragraph B shall be determined using the following formula:

(Cl + Cs) x 100/Ct = Cp

Where:

Cl = the number of connectors found leaking by the end of the monitoring period, either by Method 21 or sight, sound, and smell.

Cs = the number of connectors for which repair has been delayed and are listed on the facility shutdown log.

Ct = the total number of connectors in the facility subject to the monitoring requirements, as of the last day of the monitoring period, not including non-accessible and unsafe to monitor connectors.

Cp = the percentage of leaking connectors for the monitoring period.

Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the isolation of equipment for hot work or the removal of a component for repair or replacement results in an open ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 72 hours. If the repair or replacement is not completed within 72 hours, the permit holder must complete either of the following actions within that time period;

(1) a cap, blind flange, plug, or second valve must be installed on the line or valve; or

(2) the open-ended valve or line shall be monitored once for leaks above background for a plant or unit turnaround lasting up to 45 days with an approved gas analyzer and the results recorded. For all other situations, the open-ended valve or line shall be monitored once by the end of the 72 hours period following the creation of the open ended line and monthly thereafter with an approved gas analyzer and the results recorded. For turnarounds and all other situations, leaks are indicated by readings of 500 ppmv and must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.

F. Accessible valves shall be monitored by leak checking for fugitive emissions at least quarterly using an approved gas analyzer with a directed maintenance program. Non accessible valves shall be monitored by leak-checking for fugitive emissions at least annually using an approved gas analyzer with a directed

maintenance program. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. For valves equipped with rupture discs, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown. A check of the reading of the pressure-sensing device to verify disc integrity shall be performed at least quarterly and recorded in the unit log or equivalent. Pressure-sensing devices that are continuously monitored with alarms are exempt from recordkeeping requirements specified in this paragraph.

The gas analyzer shall conform to requirements listed in Method 21 of 40 CFR part 60, appendix A. The gas analyzer shall be calibrated with methane. In addition, the response factor of the instrument for a specific VOC of interest shall be determined and meet the requirements of Section 8 of Method 21. If a mixture of VOCs is being monitored, the response factor shall be calculated for the average composition of the process fluid. A calculated average is not required when all of the compounds in the mixture have a response factor less than 10 using methane. If a response factor less than 10 cannot be achieved using methane, than the instrument may be calibrated with one of the VOC to be measured or any other VOC so long as the instrument has a response factor of less than 10 for each of the VOC to be measured.

A directed maintenance program shall consist of the repair and maintenance of components assisted simultaneously by the use of an approved gas analyzer such that a minimum concentration of leaking VOC is obtained for each component being maintained. Replaced components shall be re-monitored within 15 days of being placed back into VOC service.

G. All new and replacement pumps, compressors, and agitators shall be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. These seal systems need not be monitored and may include (but are not limited to) dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.

All other pump, compressor, and agitator seals shall be monitored with an approved gas analyzer at least quarterly.

H. Damaged or leaking valves, connectors, compressor seals, pump seals, and agitator seals found to be emitting VOC in excess of 500 parts per million by volume (ppmv) or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A first attempt to repair the leak must be made within 5 days. Records of the first attempt to repair shall be maintained. A leaking component shall be repaired as soon as practicable, but no later than 15 days after the leak is found. If the repair of a component would require a unit shutdown that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall

be identified for such repair by tagging. A listing of all components that qualify for delay of repair shall be maintained on a delay of repair list. The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC 115.782 (c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shutdown as calculated in accordance with 30 TAC 115.782 (c)(1)(B)(i)(I), the TCEQ Regional Manager and any local programs shall be notified and may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination.

I. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates, times, test methods, and instrument readings. The instrument monitoring record shall include the time that monitoring took place for no less than 95% of the instrument readings recorded. Records of physical inspections shall be noted in the operator's log or equivalent.

J. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable New Source Performance Standard (NSPS), or an applicable National Emission Standard for Hazardous Air Pollutants (NESHAPS), and does not constitute approval of alternative standards for these regulations.

K. In lieu of the monitoring frequency specified in paragraph F, valves in gas and light liquid service may be monitored on a semiannual basis if the percent of valves leaking for two consecutive quarterly monitoring periods is less than 0.5 percent.

Valves in gas and light liquid service may be monitored on an annual basis if the percent of valves leaking for two consecutive semiannual monitoring periods is less than 0.5 percent.

If the percent of valves leaking for any semiannual or annual monitoring period is 0.5 percent or greater, the facility shall revert to quarterly monitoring until the facility again qualifies for the alternative monitoring schedules previously outlined in this paragraph.

L. The percent of valves leaking used in paragraph K shall be determined using the following formula:

$$(Vl + Vs) \times 100/Vt = Vp$$

Where:

Vl = the number of valves found leaking by the end of the monitoring period, either by Method 21 or sight, sound, and smell.

Vs = the number of valves for which repair has been delayed and are listed on the facility shutdown log.

Vt = the total number of valves in the facility subject to the monitoring requirements, as of the last day of the monitoring period, not including nonaccessible and unsafe to monitor valves.

Vp = the percentage of leaking valves for the monitoring period.

M. Any component found to be leaking by physical inspection (i.e., sight, sound, or smell) shall be repaired or monitored with an approved gas analyzer within 15 days to determine whether the component is leaking in excess of 500 ppmv of VOC. If the component is found to be leaking in excess of 500 ppmv of VOC, it shall be subject to the repair and replacement requirements contained in this special condition.

Piping, Valves, Connectors, Pumps, Agitators, and Compressors – 28VHP

33. Except as may be provided for in the special conditions of this permit, the following requirements apply to the above-referenced equipment:

A. The requirements of paragraphs F and G shall not apply (1) where the Volatile Organic Compound (VOC) has an aggregate partial pressure or vapor pressure of less than 0.044 pounds per square inch, absolute (psia) at 68ºF or (2) operating pressure is at least 5 kilopascals (0.725 psi) below ambient pressure. Equipment excluded from this condition shall be identified in a list or by one of the methods described below to be made readily available upon request.

The exempted components may be identified by one or more of the following methods:

(1) piping and instrumentation diagram (PID);

(2) a written or electronic database or electronic file;

(3) color coding;

(4) a form of weatherproof identification; or

(5) designation of exempted process unit boundaries.

B. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes.

C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical. New and reworked buried connectors shall be welded.

D. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Difficult-to-monitor and unsafe-to-

monitor valves, as defined by 30 TAC Chapter 115, shall be identified in a list to be made readily available upon request. The difficult-to-monitor and unsafe-to-monitor valves may be identified by one or more of the methods described in subparagraph A above. If an unsafe to monitor component is not considered safe to monitor within a calendar year, then it shall be monitored as soon as possible during safe to monitor times. A difficult to monitor component for which quarterly monitoring is specified may instead be monitored annually.

E. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. Gas or hydraulic testing of the new and reworked piping connections at no less than operating pressure shall be performed prior to returning the components to service or they shall be monitored for leaks using an approved gas analyzer within 15 days of the components being returned to service. Adjustments shall be made as necessary to obtain leak-free performance. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the isolation of equipment for hot work or the removal of a component for repair or replacement results in an open ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 72 hours. If the repair or replacement is not completed within 72 hours, the permit holder must complete either of the following actions within that time period;

(1) a cap, blind flange, plug, or second valve must be installed on the line or valve; or

(2) the open-ended valve or line shall be monitored once for leaks above background for a plant or unit turnaround lasting up to 45 days with an approved gas analyzer and the results recorded. For all other situations, the open-ended valve or line shall be monitored once within the 72 hour period following the creation of the open ended line and monthly thereafter with an approved gas analyzer and the results recorded. For turnarounds and all other situations, leaks are indicated by readings of 500 ppmv and must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.

F. Accessible valves shall be monitored by leak checking for fugitive emissions at least quarterly using an approved gas analyzer. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. If a relief valve is equipped with rupture disc, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity.

A check of the reading of the pressure-sensing device to verify disc integrity shall be performed at least quarterly and recorded in the unit log or equivalent. Pressure-sensing devices that are continuously monitored with alarms are exempt from recordkeeping requirements specified in this paragraph. All

leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

The gas analyzer shall conform to requirements listed in Method 21 of 40 CFR Part 60, Appendix A. The gas analyzer shall be calibrated with methane. In addition, the response factor of the instrument for a specific VOC of interest shall be determined and meet the requirements of Section 8 of Method 21. If a mixture of VOCs is being monitored, the response factor shall be calculated for the average composition of the process fluid. A calculated average is not required when all of the compounds in the mixture have a response factor less than 10 using methane. If a response factor less than 10 cannot be achieved using methane, then the instrument may be calibrated with one of the VOC to be measured or any other VOC so long as the instrument has a response factor of less than 10 for each of the VOC to be measured. Replacements for leaking components shall be re-monitored within 15 days of being placed back into VOC service.

G. Except as may be provided for in the special conditions of this permit, all pump, compressor, and agitator seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. Seal systems designed and operated to prevent emissions or seals equipped with an automatic seal failure detection and alarm system need not be monitored. These seal systems may include (but are not limited to) dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.

H. Damaged or leaking valves or connectors found to be emitting VOC in excess of 500 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. Damaged or leaking pump, compressor, and agitator seals found to be emitting VOC in excess of 2,000 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A first attempt to repair the leak must be made within 5 days and a record of the attempt shall be maintained.

I. A leaking component shall be repaired as soon as practicable, but no later than 15 days after the leak is found. If the repair of a component would require a unit shutdown that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging within 15 days of the detection of the leak. A listing of all components that qualify for delay of repair shall be maintained on a delay of repair list. The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC 115.782 (c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shut down as

calculated in accordance with 30 TAC 115.782 (c)(1)(B)(i)(I), the TCEQ Regional Manager and any local programs shall be notified and may require early unit shut down or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination.

J. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates and times, test methods, and instrument readings. The instrument monitoring record shall include the time that monitoring took place for no less than 95% of the instrument readings recorded. Records of physical inspections shall be noted in the operator's log or equivalent.

K. Alternative monitoring frequency schedules of 30 TAC § 115.352 - 115.359 or National Emission Standards for Organic Hazardous Air Pollutants, 40 CFR Part 63, Subpart H, may be used in lieu of Items F through G of this condition.

L. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable New Source Performance Standard (NSPS), or an applicable National Emission Standard for Hazardous Air Pollutants (NESHAPS) and does not constitute approval of alternative standards for these regulations.

Sampling

34. Upon request by the Executive Director of the TCEQ or any local air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuel(s) utilized in these facilities or shall allow air pollution control agency representatives to obtain a sample for analysis.

Recordkeeping Requirements (09/16)

35. The following records (written or electronic) shall be kept at the plant for the life of the permit. All records required in this permit shall be made available at the request of personnel from the TCEQ, EPA, or any local air pollution control program having jurisdiction:

A. A copy of this permit.

B. Permit application dated August 20, 2013, and subsequent applications and representations submitted to the TCEQ.

C. A complete copy of the testing reports and records of the initial performance testing completed to demonstrate initial compliance.

D. Stack sampling results or other air emissions testing that may be conducted on units authorized under this permit after the date of issuance of this permit, amended September 2, 2016.

36. The following records shall be maintained by the holder of this permit in a form suitable for inspection for a period of five years after collection and shall be made available

upon request to representatives of the TCEQ, EPA, or any local air pollution control program having jurisdiction:

A. Records of fuel usage for boilers to show compliance with Special Condition No. 5.

B. Starting with issuance of Amendment Projects 248146 / 248153 in April 2017, records sufficient to show compliance with throughput limits in Special Condition No. 7. **(4/17)**

C. Records of the number of tanks storing Light Fuel Oil simultaneously and the combined simultaneous filling rates of tanks in Light Fuel Oil service as required by Special Condition No. 8.

D. Records of each storage tank's contents and its hourly throughput as required by Special Condition No. 9.

E. Storage tank records as required by Special Condition No. 10:

(1) Records of visual inspections and seal gap measurements to verify fitting and seal integrity as required by Special Condition No. 10 C.

(2) Records of calculated VOC emissions from all storage tanks during the previous calendar month and the past consecutive 12 month period as required by Special Condition No. 10 G.

F. Records of tank roof landings and associated emissions as required by Special Condition No. 11 E. **(4/17)**

G. Records of CAS monitoring as required by Special Condition No. 12 D. **(4/17)**

H. Records of water column vacuum pressure recorded every 15 minutes during loading as required by Special Condition No. 18.

I. Records of pressure at the vapor recovery connection of an inerted ocean-going vessel while the vessel is being loaded, as required by Special Condition No. 20.B.

J. Records of monthly calculated VOC emissions from all loading operations over the previous rolling 12 month period. Using the method represented in the application with PI-1 dated August 20, 2013 and subsequent submittals. Sample calculations from the application shall be attached to a copy of this permit at the terminal as required by Special Condition No. 24.

K. Separate records shall be maintained for all loading of crude oil onto inerted ocean-going marine vessels as required by Special Condition No. 25.

L. Records of time, date, and duration of any loss of pilot flame shall be recorded as required by Special Condition No. 29.

M. Records of VCU inspections as required by Special Condition No. 30.

N. Records of repairs to piping, valves, pumps, agitators, and compressors subject to 28LAER or 28VHP shall include date of repairs, repair results, justification for

delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates, times, test methods, and instrument readings. The instrument monitoring record shall include the time that monitoring took place for no less than 95% of the instrument readings recorded. Records of physical inspections shall be noted in the operator's log or equivalent as required by Special Condition Nos. 32 I and 33 J.

Permits by Rule Authorizations (09/16)

37. The following facilities at the site are authorized by permit by rule (PBR) under 30 TAC Chapter 106. This authorization is listed here for reference purposes only.

Facilities	Registration Number	Rule Number
Maintenance, Startup, and Shutdown Emissions	---	106.263
Tanks 100-11 and 100-12, Change of Service from Fuel Oil to Asphalt	Unregistered, Claimed December 2013	106.472

Offset Conditions (09/16)

38. This Nonattainment New Source Review (NNSR) permit is issued/approved based on the requirement that the permit holder offset the project emission increase for facilities authorized by this permit prior to the commencement of operation, through participation in the TCEQ Emission Banking and Trading (EBT) Program in accordance with the rules in 30 TAC Chapter 101, Subchapter H.

39. The permit holder has used 10.3 tons per year (tpy) of VOC credits from TCEQ credit certificate number 2947 to offset the 7.9 tpy project emission increase for the following facilities, at a ratio of 1.3 to 1: **(04/17)**

TCEQ Project Nos.	Project Description	Facilities	Emissions Increases (tpy VOC)	Credits (tpy VOC)
186863	Crude Oil Loading	SHIPLD-3C, VCU-1, VCU-2, FU-5	3.2	4.2
230308/ 230311	Increased Crude Oil Loading, NNSR	SHIPLD-1C, SHIPLD-2C, SHIPLD-3C, VCU-1, VCU-2,VCU-3,VCU-4, FU-5	4.7	6.1
	2014/2016 Project Totals	Project Nos. 186863, 230308/230311	7.9	10.3

40. Additional aggregated project emission increases to be offset at a ratio of 1.3 to 1 and the required credits are as follows: **(04/17)**

TCEQ Project Nos.	Project Description	Facilities	Emissions Increases (tpy VOC)	Credits (tpy VOC)
248146/ 248153	Increased Crude Oil Tanks and Loading, NNSR, Phase I	SHIPLD-1C, SHIPLD-2C, SHIPLD-3C, VCU-1, VCU-2,VCU-3,VCU-4, T250-3, T250-4, T266-1, T266-2, TANKMSS-C, FU-5	29.0	37.7
	Phase II	T400-11, T400-12, T400-13, T250-9, T250-10	11.5	15.0
	Phase III	T250-11, T250-12, T250-13, T250-14	7.9	10.3
	2017 Project Total	Project Nos. 248146/248153	48.4	62.9

41. The permit holder shall use 62.9 tpy VOC credits to offset the total 48.4 tpy VOC project emission increase described in Special Condition No. 40 for the facilities authorized by this permit. **(04/17)**

42. Application for Credits:

A. Prior to the commencement of operation of the associated facilities, the permit holder shall obtain approval from the TCEQ EBT Program for the credits being used and then submit a permit alteration or amendment request to the TCEQ Air Permits Division (and copy the TCEQ Regional Office) to identify approved credits by TCEQ credit certificate number.

B. Offset credits for TCEQ Project No. 186863 shall be used prior to commencement of operation of facilities associated with TCEQ Project Nos. 230308 / 230311.

C. Offset credits for TCEQ Project Nos. 230308 / 230311 shall be used prior to commencement of operation of facilities associated with TCEQ Project Nos. 248146 / 248153.

Date: April 26, 2017

ATTACHMENT A
Permit Number 5783 and N57M2
Approved Chemicals for Storage

Acetal
Acetone
Acetonitrile
Amyl Acetate
Amyl Alcohol
Butyl Acetate
Butyl Alcohol
Butyl Ether
Butyl Formate
Butyronitrile
Cellosolves
Cellosolve Acetates
Chlorobenzene
Crude Oil
Crude Oil Condensates
Cyclohexane
Cyclohexene
Cyclopentane
Cyclopentanol
Cyclopentanone
Cyclopentene
Diethyl Ketone
Dipropyl Ketone
Ethyl Acetate
Ethyl Alcohol
Ethyl Benzene
Ethyl Butyrates
Ethyl Cyclohexane
Ethyl Cyclopentane
Ethyl Formate
Ethyl Hexane
Ethyl Methacrylate
Ethyl Pentane
Ethyl Propionate
Fuel Oil
Gasoline
Gasoline Additives
Heptane
Heptene
Hexane
Hexene
Hexanone
Isobutyl Acetate
Isobutyl Alcohol
Isobutyl
Isobutyrate
Isohexane
Isooctane
Isopropyl Acetate
Isopropyl Alcohol
Isopropyl Ether
Mesityl Oxide
Methyl Acetate
Methyl Alcohol
Methyl Amyl Alcohol
Methyl Butyrate
Methyl Cyclohexane
Methyl Cyclopentane
Methyl Ethyl Ketone
Methyl Heptane
Methyl Hexane
Methyl Isoamyl Ketone
Methyl Isobutyl Ketone
Methyl Isopropyl Ketone
Methyl Methacrylate
Methyl Pentane
Methyl Propionate
Methyl Propyl Ketone
Naphtha
Natural Gas Condensate
Neohexane
Octane
Octene
Propyl Acetate
Propyl Alcohol
Propyl Formate
Propyl Propionate
Refinery Petroleum Products containing less than 10 percent benzene
Toluene
Vinyl Acetate
Varsol
Xylene

Date: March 11, 2016

ATTACHMENT B
Permit 5783 and N57

Testing Protocol for the Direct Measurement of Uncollected Volatile Organic Compound (VOC) Loading Losses During Marine Vessel Loading

Prepared for:

Houston Fuel Oil Terminal Company

Prepared by:

URS Corporation
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July 2014

STATEMENT OF LIMITATIONS

This document was developed for the sole use of Houston Fuel Oil Terminal Company. The scope of this study may not be appropriate to satisfy the needs of other users. Any use of this information provided in this document by any other user is at the sole risk of said user.

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1.0 Introduction

This testing protocol applies to the determination of Volatile Organic Compounds (VOCs) fugitive emission rates during the controlled loading of inerted tanker ships with organic liquids. The principle of the procedure is as follows. Components on board a ship that may emit VOCs in the course of a loading activity are identified. These components are screened for leaks of VOCs using EPA Reference Method 21. For components determined from screening to have leaks, a component-specific emission rate is determined using a portable device capable of measuring total hydrocarbon mass emission rate. Screening values and measured emission rates are calculated to estimate uncollected VOC emissions for the entire loading event.

When included as an attachment to a New Source Review (NSR) permit, this protocol specifies necessary procedures for satisfying applicable compliance demonstration, recordkeeping and reporting requirements of the permit. When approved for use by Texas Commission on Environmental Quality (TCEQ) prior to permit issuance, this protocol also specifies procedures for determining site-specific emission factors for sites conducting controlled tanker ship loading. Testing under this protocol is not required at sites where a generic emission factor (i.e., 95% capture) is used to set and demonstrate compliance with permit limits.

The remainder of this protocol is organized as follows:

- Section 2.0 of this protocol details the loading process, summarizes the types of components on a tanker ship that may emit VOCs, and identifies applicable VOC control requirements for tanker ship loading events at HFOTCO's Houston facility;
- Section 3.0 identifies requirements for proper sampling, including work practice and recordkeeping requirements for sampling data;
- Section 4.0 identifies approved instrumentation which may be used in conducting testing in accordance with this protocol;
- Section 5.0 identifies reporting and recordkeeping requirements for non-instrumental data collected during the test;
- Section 6.0 identifies quality assurance and quality control requirements for instruments;
- Section 7.0 identifies reporting requirements; and
- Section 8.0 includes references.

2.0 Loading Process Description

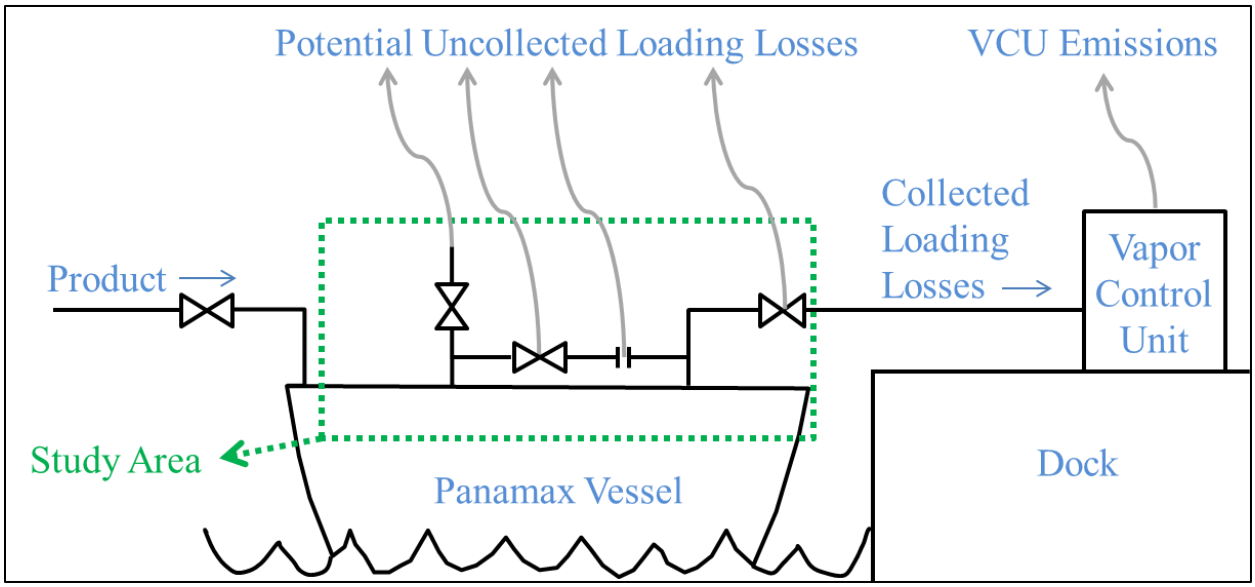
During approved testing, crude oil will be loaded onto ocean-going tankers and ocean-going barges with capacities of approximately 400,000 barrels (bbl) and 200,000 bbl, respectively. The anticipated average loading rate is approximately 30,000 bbl/hr.

Testing shall be restricted to inerted tanker ships. Inerted tanker ships are those where an inert atmosphere (typically stack gas from an on-board diesel-fired combustion source) has been delivered to each cargo tank on the vessel prior to loading.

Before loading takes place, HFOTCO personnel will board the tanker to review paperwork and ensure that all of the necessary testing and operational equipment is in place and in working order consistent with the requirements of the ship's Captain and governance of the owners of the ship.

Once all pre-transfer preparations are completed, cargo loading can begin. Loading the tanker primarily consists of pumping cargo into the vessel's cargo tanks. As cargo enters the cargo tanks, the vapors inside the tanks will be routed to the permitted vapor control unit on the dock. Loading typically begins slowly at a low pressure to ensure that equipment is working correctly and that connections are tight. Steady pressure is eventually achieved and held until the "topping-off" phase when the tanks are nearly full. As the tanker approaches capacity, personnel will direct the flow of cargo and maintain close contact with the pumping facility to decrease and ultimately stop the flow of cargo.[1] A loading process diagram is provided in Figure 2-1.

Figure 2-1. Process Diagram and Study Area Boundary



2.1 Loading Loss Determination

Data collected during testing shall be used to estimate uncollected loading emissions and collection efficiency for the loading event. Methods for calculation of collection efficiency are detailed in this section.

Loading losses occur as organic vapors inside the empty vessel are displaced by the petroleum liquids being loaded into the vessel. Loading losses may be calculated according to the formula provided in EPA document AP-42, Section 5.2 – Transportation and Marketing of Petroleum Liquids[2]. All collected loading loss emissions are subject to permit control requirements.

$$L_L = \frac{12.46(S)(P)(M)}{T}$$

Where:

L_L = Loading loss (lb/10^3 gallons of liquid loaded);
S = Saturation factor from AP-42 (dimensionless);
P = Vapor pressure of liquid loaded (psia);
M = Molecular weight of vapors (lb/lb-mol); and
T = Temperature of bulk liquid loaded (^oR).

Uncollected loading emissions are also referred to as "loading fugitives." Uncollected loading emissions (L_{LF}) are related to total loading losses by the following equation:

$$L_{LF} = (L_L)\ (100\% - CE)$$

Where:

CE = Collection efficiency (%).

Uncollected loading emissions (L_{LF}) will be directly measured in this study. Collection efficiency (CE) is calculated using the following equation:

$$CE = 100\% - \frac{L_{LF}}{L_L} = 100\% - \frac{(L_{LF})(T)}{12.46(S)(P)(M)}$$

Uncollected loading emissions (L_{LF}) will also be used to determine an emission factor expressed as pounds of uncollected fugitive emission generated per 1,000 barrels of cargo loaded.

2.2 VOC Emissions Regulations

This protocol is designed to quantify uncollected loading emissions from the controlled loading of inerted, vapor-tight marine vessels. Marine loading operations at the HFOTCO facility are subject to the requirements of Title 40 of the Code of Federal Regulations, (40 CFR) Part 63, Subpart Y - *National Emission Standards for Marine Tank Vessel Loading Operations*[3]. Testing shall be restricted to those marine vessels for which annual vapor-tightness testing in accordance with 40 CFR §63.565(c) is documented.

Coast Guard regulations for facilities transferring oil or hazardous materials in bulk require that a facility vapor collection system must maintain the pressure in a vessel's cargo tanks between 0.2 psig and 80% of the lowest setting of any of the vessel's pressure relief valves for an inerted tank vessel 30 CFR 154.2103(b). For reference, a typical setting for a P/V valve on a crude tanker is +2.0/-0.5 psig. Testing shall be restricted to those tanker ships which employ vapor collection systems in accordance with Coast Guard regulations and applicable permit conditions.

3.0 Measurements Approach

Instrumental measurements taken during testing, and calculations performed following testing shall be performed as detailed in this section.

The following measurement/calculation methods are covered by this section:

- Identify any leaking components during loading (Section 3.1);
- Measure emission rates of leaking components (Section 3.2); and
- Estimate total VOC emissions from all leaking components to determine the cumulative uncollected loading emissions (L_{LF}) of VOCs from the vessel during loading (Section 3.3).

Hydrocarbon concentrations in the headspace of the cargo tanks reach their highest levels at the end of the loading process, representing a worst-case scenario with regard to the generation of fugitive emissions. In order to calculate a conservative estimate of emissions from any leaking components, URS shall conduct field measurements over a period of at least six hours as close to the end of the loading process as practical. Testing can be scheduled so that it does not take place during overnight hours (i.e., 11:00 PM – 5:00 AM) or during periods of adverse weather.

Testing shall be conducted by a team consisting of no fewer than four qualified persons, with roles and responsibilities as detailed in Table 3-1.

A "Start-Up" phase shall be conducted as follows. Before leak detection efforts begin, the Project Field Lead shall consult with ship crew in order to identify all components on the ship that may emit uncollected loading losses. The Project Lead will develop a Component Master List that includes each component identified during the Start-Up Phase. Each component on the list is assigned a unique identifier. Testing and calibration of data collection equipment following Section 6.0 shall also be conducted during the Start-Up phase.

Following completion of the Start-Up phase, the rest of the test is divided into two partially overlapping periods: one of leak detection (Section 3.1) and another of leak measurement (Section 3.2). During the leak detection phase the primary emphasis of the testing team is on determining which components are leaking. During the leak measurement phase the emphasis of the testing team is on quantifying various leak rates as accurately as possible. Each of the phases of testing, and the general responsibilities of each team member during each phase, is summarized in Table 3-1.

Table 3-1. General Responsibilities of Field Personnel during Various Phases of Testing

Testing Phase	Phase Description	Project Field Lead (1 person)	Leak Detection Staff (2 people)	Leak Measurement Staff (1 person)
Start-Up Phase	Pre-sampling preparations	• Work with ship personnel to identify all potential leak points and fill out the "Component Count Master List " • Provide completed "Component Count Master List" to other field personnel	Conduct instrument calibration checks to confirm proper instrument performance and document results. See Section 6.0 for more information.	Conduct Bacharach Hi Flow Sampler calibration check to confirm proper instrument performance and document results.
Leak Detection Phase	• Primary focus is on leak detection efforts • Phase lasts until each component has been screened for leaks at least twice.	• Assist leak detection and leak measurement personnel and provide guidance as needed. • Ensure all team members are aware of significant findings noted by other testing personnel.	• Look for leaks as required in Section 3.1. • Screen tank tops, P/V valves and manifold vapor connection spools first • Notify Project Field Lead and Leak Measurement Staff when any non-marginal leaks are detected. • Ensure each component is screened for leaks at least twice. • Film video of any leaks detected with an IR gas imaging device	• Assist Project Field Lead and Leak Detection Staff when not measuring leak rates. • Ensure that an emission rate measurement is collected on any component found to be "leaking" as soon as possible after leak detection. • Conduct two or more emission rate measurements on any components identified as “leaking” by screening.
Leak Measurement Phase	• Phase may begin once significant leaks are identified by screening. • Once all components have been screened twice during the leak detection phase, the focus shifts from leak detection efforts to leak	• Assist leak measurement personnel with bagging any larger "leaking" components (e.g., tank tops). • Ensure, to the extent practicable, that leak detection and measurement takes place on cargo tanks actually being loaded.	• Continue with follow-up, handheld screening measurements on components found to be "leaking" or "marginally leaking". • The IR gas imaging device operator should work with Leak Measurement Staff as needed to help demonstrate that total capture is achieved on any significant leaks during Hi Flow Sampler Measurements.	

	measurement efforts.			

This protocol concerns the measurement of authorized VOC emissions due to release of uncollected loading losses. The direct measurement of unauthorized emissions occurring during an emissions event (30 TAC §101.1(28)) is not required under the protocol. Any process upsets that occur during testing, and that result in unauthorized emissions, shall be identified in the submitted test report.

3.1 Leak Detection Approach

The first method ("Method 21") is the use of handheld hydrocarbon monitoring devices to monitor for leaks in accordance with EPA Reference Method 21. Method 21 shall be employed during each test as the means for determining whether a component is non-leaking, marginally leaking, or leaking. Method 21 handheld monitors are certified as intrinsically safe and their use on the deck of a marine vessel during loading generally presents no issues. The second method ("infrared (IR) camera for optical gas imaging") is the use of a device such as the FLIR GF320[1] gas imaging VOC detector. Devices such as the FLIR GF320 may not be certified as intrinsically safe and are only permitted on the deck of the vessel during loading at the discretion of the ship's captain or the captain's designee.

Handheld monitoring via EPA Method 21 is generally capable of detecting smaller leaks that the IR gas imaging device may not detect, but it is a more time consuming method. An IR gas imaging device can detect VOC leak rates as low as six grams per hour at a distance of twenty feet under ideal weather conditions. It is able to survey a large number of components in a relatively short time period and is particularly well suited for quickly identifying large leaks. During the leak detection phase, leak detection using Method 21 and the IR gas imaging device method (if permitted) shall be performed by at least two members of the field team. When the IR gas imaging device method is not permitted, both testing staff will perform Method 21 screening.

Since the IR gas imaging device survey method can investigate and identify potential leak points faster than EPA Method 21, it is anticipated that the Method 21 and IR gas imaging device leak detection teams can work independently of one another during the leak detection phase. If a leak is identified by the IR gas imaging device method, personnel conducting Method 21 screening shall be promptly notified in order to conduct an independent examination of the leak point.

The potential fugitive emission points on the master component list are located on the deck of the vessel and are suitable for testing using either of these leak detection

[1] Over time, equipment brands, technology and models may change i.e., the FLIR GF320 is not the only acceptable gas imaging device to be used for this protocol. The Operating Company shall use the same, equivalent or improved equipment technology.

methods. All components shall be assigned a unique ID. Testing personnel shall use a component's unique ID when documenting leak detection and measurement results. Each potential emission source will be inspected for leaks at least two times during testing.

Based on results of previous testing efforts, tank tops, P/V valves and manifold vapor connection spools have been found to account for the majority of measured leaks. As such, it is recommended that initial leak detection efforts focus on these three component types. Only once all of the tank tops, P/V valves and manifold vapor connection spools have been screened for leaks should leak detection efforts move on to other component types.

3.1.1 EPA Method 21 Screening (primary leak detection method)

EPA Method 21 – Determination of Volatile Organic Compound Leaks – is the standard procedure for the determination of VOC leaks from process equipment[4]. This method applies, but is not limited to, valves, flanges and other connections, pumps and compressors, pressure relief devices, process drains, open-ended valves, pump and compressor seal system degassing vents, and access door seals.

Application of Method 21 is also referred to as screening. Each potential leak point identified in the "Component Count Master List" shall be screened at least twice during testing. Prior to screening a component, any obstructions that might interfere with monitoring at the interface (e.g., grease on the component interface) should be eliminated[5]. The instrument measurement may exceed the scale of the instrument. This is referred to as a pegged readout and the measurement result will be noted as "pegged." Care must be taken to avoid fouling the probe with grease, dust, or liquids. A short piece of Teflon® tubing will be used as a probe tip extender. This extender will be snipped off as the tip fouls. Instrumentation that may be used as a part of this approach is discussed in Section 4.0.

Research on fugitive emissions in refineries has revealed that the vast majority of the fugitive emissions typically derive from a few large leaks[6]. Therefore, this testing protocol seeks to direct monitoring resources toward the detection and measurement of large leaks as opposed to smaller, insignificant leaks. This testing protocol establishes a three-way distinction between "non-leaking" components, "marginally leaking" components, and "leaking" components. For the purposes of this study, any component with a screening concentration less than 500 ppm-c (i.e., ppm as methane) will be considered to be "non-leaking" at the time of that measurement. Based on results from previous studies, components with a screening concentration less than 2,500 ppm-c

generally had no detectable emissions using the leak quantitation method described in Section 3.2 (i.e., the leak emission rate was zero). Therefore, any components with a handheld screening value between 500 and 2,500 ppm-c will be classified as "marginally leaking," but no direct measurement of leak rate will be required for these components. Components with a screening concentration above 2,500 ppm-c will be classified as leaking and will require an emission rate measurement.

For each potential leak point with a screening concentration below 500 ppm-c, the following data shall be recorded:

- Component ID;
- Measurement Time; and
- Sampler Initials.

For each potential leak point with a screening concentration above 500 ppm-c, the following data shall be recorded:

- Component ID;
- Measurement Time;
- Sampler Initials;
- Ambient concentration (ppm-c);
- Screening concentration (ppm-c); and
- Any other pertinent details.

As an alternative to recording ambient concentration, an ambient concentration of 0 ppm-c VOC can be assumed.

Once all components on the Component Count Master List have been screened, the screening process for all components will be repeated. The classification of components according to the three-way leak definition outlined in this section, with associated sampling and recordkeeping requirements, is summarized in Table 3-2.

Table 3-2. Summary of General Handheld Leak Detection Screening Procedure

Handheld Screening Concentration	Leak Classification	Record Keeping Requirements	Follow-up requirements
Less than 500 ppm-c	Not Leaking	Write down the component ID, time, sampler initials	• Make sure the component is screened for leaks at least twice during testing. • No follow-up leak rate measurement is required.
500 - 2,500 ppm-c	Marginally Leaking	• Write down the component ID, time, sampler initials, screening concentration and any other pertinent details on the field data sheet, "Handheld Hydrocarbon Measurements." • Place a green tag on the component noting the component ID, the screening concentration and the time.	• No follow-up leak rate measurement is required. • Continue to screen the component periodically throughout testing (at least twice, ideally more).
Greater than 2,500 ppm-c	Leaking	• Write down the component ID, time, sampler initials, ambient concentration, screening concentration and any other pertinent details on the "Field Data Sheet – Handheld Hydrocarbon Measurements." • Place a red tag on the component noting the component ID, the screening concentration and the time. If a green tag is already present, locate the red tag directly next to the green tag.	• Leak rate measurement is required – notify leak measurement personnel and/or field lead as soon as possible so that follow-up Hi Flow Sampler measurement can be conducted. • Continue to screen component periodically throughout testing (at least twice, ideally more).

3.1.2 IR Gas Imaging Device Survey

When the IR gas imaging device method is permitted, personnel will perform remote screening using the IR gas imaging VOC detector to identify potential VOC emission points and qualitatively assess each point's relative emissions potential. Once the IR gas imaging device is in the optimal position relative to the potential leak point(s) and all operating parameters are optimized, at least 20 seconds will be spent inspecting the potential leak point(s). If any leaks are detected then video of the leak will be recorded, the leaking component will be tagged with a yellow tag, and a record of the leak will be documented on the IR gas imaging device field data sheet, noting:

- The filename/number;
- The component ID;
- The time; and
- Any other pertinent details.

Any videos of leaking components will be provided with the final report. Once all of the components of interest have been surveyed by the IR gas imaging device, the survey process for all components will start again. When conducting subsequent rounds of surveying, components with previously detected leaks may be evaluated more frequently than non-leaking components. At least one video will be recorded featuring each component type, regardless of whether that component type was found to be leaking. For instance, regardless of whether any tank access plates were found to be leaking, at least one video of a tank access plate will be recorded.

3.2 Leak Emission Measurement Approach

During the leak measurement phase, leak emission rates shall be measured using a Bacharach Hi Flow Sampler. A detailed description of the Bacharach Hi Flow Sampler is provided in Section 4.3. Quality assurance and quality control procedures are addressed in Section 6.3. This section provides a description of how this sampler is expected to be utilized in this study.

Leak rate measurements will be collected on those components classified as "leaking" following the criteria presented in Section 3.1.1. In cases where multiple "leaking" components are simultaneously active, leaks shall be measured as soon as practicable, with priority given to measuring whichever leak is believed to be more significant. Any component with a detected leak rate (i.e., a non-zero leak rate) should have its leak rate quantified as many times as practicable throughout the loading process, though not less than twice. In the event that leak measurements are performed only once on a "leaking" component, the report shall contain an explanation why a second measurement was not made. In the event that no leak measurements are performed on a "leaking" component,

the report shall contain an explanation why no measurements were made, and a proposed conservative estimate of the emission rate for the leaking component.

Before measuring emissions from a particular leak point using the Hi Flow Sampler, the appropriate capture device for the leak/emission source must be selected. Choices include a set of conventional capture tools (crevice tool, a bag, flange tool, etc.) and a set of URS developed, "non-conventional" capture tools.

After sampling has started, the emission measurement reading should be monitored until a stable leak measurement is obtained. At this time, the following information should be recorded on the field data sheet:

- Component ID;
- Time;
- Sampler initials;
- Sampler flow rate (LPM);
- Sampler concentration (% as methane);
- Sampler emission rate (LPM as methane); and
- Any other pertinent information.

An entire Hi Flow Sampler test run typically lasts between one and five minutes. If IR gas imaging device is allowed on the deck of the vessel during testing, the leak monitoring process outlined above should be filmed at least once in the field to help demonstrate that all VOC emissions from the leak in question are being captured by the Hi Flow Sampler. The purpose of filming the Hi Flow measurement is to demonstrate technique and the ability of the sampler to capture the entire leak. Performing this observational check once or twice during the entire test event shall be considered sufficient for this demonstration.

3.3 Calculation of VOC Emission Rates and Total Uncollected Emissions

The Hi Flow Sampler displays emission rate readings in liters of hydrocarbon (as methane) per minute (LPM) with a measurement resolution (sensitivity) of 0.1 LPM. These emission rate values will be converted to grams of hydrocarbon per hour using the following equation[2]:

$$\text{THC emission rate } \left(\frac{\text{g}}{\text{hour}}\right) = \frac{\text{liters of methane}}{\text{1 minute}} \times \frac{\text{1 mole(STP)}}{\text{22.4 liters}} \times \frac{\text{16 grams}}{\text{1 mole}} \times \frac{\text{60 minutes}}{\text{hour}}$$

[2] Formula assumes standard temperature and pressure (STP) – 22.4 L/mole

Using this equation, an emission rate reading of 0.1 LPM corresponds to 4.3 grams of hydrocarbon per hour. For purposes of this testing, VOCs are assumed to account for 100% of the total hydrocarbon concentration. Any reading of zero may be interpreted to mean that the emission rate was less than the sensitivity of the sampler (i.e., < 4.3 g/hour). The leak emission rate is equal to the measured concentration multiplied by volumetric flow rate. Components with low screening values may yield a leak rate reading of zero due to the low volumetric flow rate of the leak.

If no Hi Flow Sampler measurements are collected on a component because all screening concentrations are below 2,500 ppm-c then the average leak rate for that component is dependent on the maximum screening concentration associated with that component. If the maximum screening concentration for a given component is less than 500 ppm-c then the average leak rate for that component is assumed to be 0.0 g/hour. If the maximum concentration for a given component is between 500 ppm-c and 2,500 ppm-c then the average leak rate for that component is assumed to be equal to one-half of the measurement sensitivity of the Hi Flow Sampler (2.2 g/hour).

All components with a maximum screening concentration greater than 2,500 ppm-c should have at least two Hi Flow Sampler measurements. For these components, the average leak rate will be determined by taking the arithmetic average of all the Hi Flow Sampler measurements collected on that component. In any instance where a leak rate measurement of 0.0 g/hour is measured, a leak rate measurement equal to one-half of the measurement sensitivity of the Hi Flow Sampler (2.2 g/hour) will be assumed. This process is summarized in Table 3-3.

The average leak rate for each component shall be summed to provide the cumulative average leak rate for the vessel, which is an estimate of the uncollected loading fugitive emissions. This leak rate, expressed in grams per hour, shall be multiplied by the total loading duration, expressed in hours, to calculate total uncollected emissions over the course of loading. The cumulative average leak rate for the vessel shall be reported to the nearest 0.01 lb.

Table 3-3. Screening Concentrations and Corresponding Emission Leak Rate Values

Maximum Handheld Screening Concentration for the Component	Leak Classification	How Average VOC Leak Rate for Component is Determined
Less than 500 ppm-c	Not Leaking	The component is assumed to have an emission leak rate average of 0.0 g/hour. No Hi Flow Sampler measurement is required.
500 - 2,500 ppm-c	Marginally Leaking	The component is assumed to have an emission leak rate average of 2.2 g/hour. No Hi Flow Sampler measurement is required.
Greater than 2,500 ppm-c	Leaking	• If Hi Flow Sampler measurement data are available then the average emission leak rate is equal to the arithmetic average of all the Hi Flow Sampler measurement values (where 2.2 g/hour is substituted for any zero readings). • If no Hi Flow Sampler measurement data are available then provide a conservative estimated emission rate and document the reason for failure to perform a leak rate measurement.

4.0 Sampling and Measurement Equipment

All equipment described in this section is certified as intrinsically safe with the exception of the FLIR GF320 gas imaging device. Non-intrinsically safe equipment may be permitted on board by discretion of the ship captain or the captain's designee.

The following subsections summarize the function of the primary sampling and measurement equipment to be used in this study. Over time, equipment brands, technology and models may change. The equipment discussed in Sections 4.1-4.3 is the equipment expected to be used at the time this protocol was developed. URS shall use the same, equivalent or improved technology when executing this ship testing protocol. Quality assurance and quality control procedures for this equipment are addressed in Section 6.0.

4.1 IR Gas Imaging Device

Infrared gas imaging is conducted using a FLIR GF320. The FLIR GF320 has a spectral range of 1– 5.4 μm. The detector is operated at near liquid nitrogen temperatures using an integral Stirling cooler which provides the system with an NEDT less than 25 milliKelvins, providing excellent sensitivity.

The spectral range is further limited with the use of a notch filter specifically designed for the detection of hydrocarbon infrared absorptions in the 3 micron region. The narrow band pass range of the filter is less than the infrared spectral absorption of gas phase hexane. The filter notch is positioned such that alkane gases have a significant response within the band pass range.

The use of a narrow band pass filter provides spectral discrimination that allows the detection of compounds that have a vibration mode in the infrared region of the filter. Not all hydrocarbons have infrared absorptions within the filter range. Using propane as the reference spectrum with a relative response of 100, methane's response is approximately 10% of the same concentration of propane and hexane is 1.5 times the response of propane at the same concentration. The filter is set to the infrared region of the spectrum that corresponds to the infrared absorption of alkanes, primarily.

Figure 4-1. The FLIR GF320

4.2 phx21™ Hydrocarbon Analyzer

Handheld screening for VOCs shall be conducted using a phx21 or a similar handheld VOC monitor (e.g., Thermo TVA-1000, etc.) that meets Method 21 requirements. The pxh21™ FID analyzer (Figure 4-2) is a portable, battery-powered, intrinsically safe hydrocarbon analyzer that utilizes a flame ionization detector (FID).

Figure 4-2. phx21™ Hydrocarbon Analyzer

4.3 Bacharach Hi Flow Sampler

The Hi Flow Sampler (see figure below) is a portable, intrinsically safe, battery-powered instrument designed to determine leak rates around various components. This is accomplished by sampling at a large flow rate (between 140 and 300 LPM) to completely capture all vapors leaking from a component. By measuring the flow rate of the sampling stream and the hydrocarbon concentration within that stream, the total hydrocarbon leak rate can be calculated. This protocol requires the use of the Bacharach Hi Flow Sampler or equivalent technology.

Figure 4-3. Bacharach Hi Flow Sampler

5.0 Other Measurement Data

In addition to field data sheets compiled as required by Section 3, URS shall collect and report the following data to the extent practicable:

- The true vapor pressure of the cargo loaded (psia);
- The average temperature of cargo loaded (^{o}R);
- Ship particulars (e.g., ship age, dimensions, etc.);
- The inspector's report (e.g., information on prior load, potential for a heel, etc.);
- A copy of the last vapor-tightness certification;
- Loading rates and individual cargo tank loading rates over time;
- Vapor collection system operating pressures and individual cargo tank pressures over time; and
- Cargo tank fill levels and ullage over time.

Wherever possible, high time-resolution (e.g., 1-minute average) electronic data should be requested and collected. Any data directly collected by HFOTCO through their computer data historian system (e.g., a Supervisory Control and Data Acquisition - SCADA) during routine loading operations (e.g., dockside loading rates) shall be provided in electronic format. Any electronic data files collected during this study shall be provided with the final report. In some instances, high time-resolution electronic data may not be available or ship personnel may refuse to provide such data. For example, although loading rates and pressures for individual cargo tanks are monitored by ship personnel, a request for an electronic record of these data may not be granted by ship personnel. In instances where a request for electronic data is denied, URS shall request for ship personnel to provide hardcopy documentation of these data (e.g., a table summarizing hourly average data). In instances where a request for hardcopy documentation is denied, URS shall periodically (e.g., every 60 minutes) document relevant data (e.g., cargo tank loading rates, cargo tank pressures, cargo tank fill levels and ullage) to the extent that such collection is practicable and does not significantly interfere with leak detection and measurement data collection, by manually checking diagnostic monitoring equipment on the ship and writing down the results. This data format preference order is summarized in Table 5-1.

Table 5-1. Data Collection Needs and Data Format Preference Order

Data Type	When to obtain data?	Who should provide data?	Data format preference order
True Vapor Pressure of Cargo Loaded (psia)	Prior to testing	HFOTCO	PDF report
Ship Particulars (Q88)			
Loading Rates and Individual Cargo Tank Loading Rates Over Time	During testing or immediately after testing	Marine Vessel	1. High-time resolution electronic data (SCADA) 2. Hardcopy data summary 3. Periodic manual documentation of data by testing personnel
Vapor Collection System Operating Pressures and Individual Cargo Tank Pressures Over Time			
Cargo Tank Fill Levels and Usage Over Time			
Inspector's Report	After testing	HFOTCO	PDF report
Copy of Last Vapor-tightness Certification[a]			
Loading Rates Over Time			1. High-time resolution electronic data (SCADA) 2. Hardcopy documentation
Vapor Collection System Operating Pressures Over Time			

[a] HFOTCO will verify certification prior to loading but transmit certification, along with the Inspector's report, after loading.

6.0 Quality Assurance and Quality Control (QA/QC) Procedures

All instruments and equipment to be used in the field will be tested following manufacturer's specifications and/or EPA Method 21 (as applicable) prior to deployment to verify proper working condition. During this testing, all analyzers will be calibrated to verify proper instrument response. Backup parts and/or devices shall be kept on hand against foreseeable instrument or equipment failures/malfunctions in the field. Any analyzer or piece of equipment suspected of having performance issues will be promptly removed from service and repaired or replaced with an equivalent backup unit as soon as possible

For all written field documentation, indelible ink will be used, and any hand corrections will be made by a single line through the incorrect entry with the author's initials immediately following the correction. All work performed during the data collection, review, and validation process must be traceable to the author, and all data products must be able to be reversed to their original result at all times.

Sections 6.1–6.3 summarize QA/QC procedures which apply to particular device types. Over time, equipment brands, technology and models may change. The equipment discussed in Sections 6.1-6.3 summarize the equipment used at the time this protocol was developed. The URS shall use the same, equivalent or improved technology when executing this ship testing protocol.

6.1 FLIR GF320

Before testing begins, the FLIR GF320's operation will be verified on site by releasing a known emission rate of hydrocarbon vapors (e.g., methane) and measuring the distance from which the release can be reliably detected. This check will be performed at two emission rates: a low emission rate (e.g., approximately 6 grams/hour) and a higher emission rate (e.g., approximately 60 grams/hour). The distance from which each emission rate can be detected will be recorded and relevant weather conditions will be noted. These checks will be imaged and recorded on a hard drive for inclusion in the final report.

The performance of the GF320 can be affected by changes in the weather. Below are listed some weather conditions known to adversely affect the GF320's performance.

- Overcast/Early Morning Hours – The GF320 requires infrared radiation contrast in order for the technician to distinguish emissions from the background. If infrared contrast is lower during these conditions, the performance of the GF320 can be adversely impacted.

- Strong winds – Strong winds can impede the operator's ability to see a small leak from a distance as these winds dissipate emissions more quickly. However, it is anticipated that most components will be surveyed within 10 feet of the technician.
- Rainy conditions/high humidity/fog – The GF320 is waterproof so its internal electronics are unaffected by moisture. However, rain and high humidity have the potential to affect the thermal properties of the components being surveyed in this study.

Should adverse weather be encountered during testing, the operator will make a professional judgment on whether conditions are significantly affecting the instrument's ability to detect leaks.

6.2 phx21™ Hydrocarbon Analyzer

The phx21™ will be calibrated in accordance with EPA Method 21. The phx21™ will be calibrated in the field before testing takes place. Drift checks will be performed to assess analyzer accuracy. These checks will be performed by analyzing one of the methane calibration gases (e.g., 500 ppm-c) used to calibrate the portable monitoring instrument. If the drift check measurement is within 10% of the actual methane concentration the instrument is considered to have passed the drift check and no adjustment need be made to the instrument. If the drift check reading is off by more than 10% the instrument shall be recalibrated. If the analyzer fails to respond to a drift check (i.e., a false negative reading); then the instrument shall be recalibrated and measurements since the last calibration or passed drift test shall be repeated. All drift check data will be documented.

Periodic ambient air monitoring checks will be performed and if ambient concentrations readings suggest that analyzer baseline readings are unstable or drifting the analyzer should be re-zeroed and a drift check should be conducted.

6.3 Bacharach Hi Flow Sampler

The Hi Flow Sampler shall be calibrated and checked before testing following the methodology in the operation manual. Instrument response should be within 10% of the expected value using 2.5% methane calibration gas. This is applicable only to the (gas) channel as the background channel will not be used. If calibration is necessary, the analyzer will be recalibrated per the Hi Flow Sampler manual and the results will be documented. The calibration will be checked at six-hour intervals during the test event. If the instrument has drifted less than 10%, the instrument calibration is acceptable, and testing will continue. If the instrument has drifted more than 10%, previous data will be

flagged, and the instrument will be recalibrated. In this case, the next calibration check will be performed at a three-hour interval.

For all measurements, the flow rate of the sampler should be lowered and an additional reading should be collected at this lower flow. This is a test of capture efficiency, in that the flow rate drops and the concentration should rise, with the product remaining constant. These lower flow rate readings should agree with the original readings within 10% or 0.1 LPM, whichever is greater. In any instances where the two emission rate measurements are different the higher emission rate will be used in emissions calculations.

7.0 Data Reduction and Reporting

Data review, validation, and verification procedures are presented in this section. Data developed from this project are intended for use by HFOTCO. Data shall be declared invalid whenever documented evidence exists demonstrating that an instrument was malfunctioning. The testing report shall identify and report any data having been declared invalid, with an explanation for why data were invalidated. Any data that were not collected under representative conditions shall be flagged. For instance, were an emission upset to occur during non-routine loading operations (non-representative conditions) any affected data collected around the time of the emission upset shall be flagged. The impacts of including or excluding flagged data from the emissions calculations discussed in Section 3.3 will be evaluated and discussed in the final report.

The activities involved in validation of the data in general include the following:

- Reviewing the field documentation, calibration data; and
- Examining the analyzer data for measurement values that seem incongruous with normal measurement ranges.

All field measurement data shall be documented on field data sheets. Copies of field data sheets shall be provided with the final report. Additionally, field data sheets shall be compiled by URS in a computer readable format (e.g., xlsx, csv) and an electronic copy of these compiled data shall be submitted with the final report. The specific data fields included in this electronic data deliverable are discussed in Section 3 and are summarized in Table 7-1. The final report shall contain a sample calculation showing estimation of the uncollected loading fugitive emissions.

A report summarizing all results shall be produced and submitted within 60 days of completion of each test. The report shall specifically identify any deviations from this protocol and provide explanation for the deviation. If it is determined that significant deviations from this protocol have occurred, or the data reported is not sufficiently complete or representative, the TCEQ Division Director, Air Permits Division, shall either require revisions to the testing report, declare the test results invalid, and/or require testing to be repeated.

Table 7-1. Data Fields in Field Measurements Electronic Data Deliverable

EPA Method 21 Data Fields	FLIR GF320 Data Fields	Bacharach Hi Flow Sampler Data Fields
• Component ID • Measurement Time • Sampler Initials • Ambient Concentration (ppm-c) • Screening Concentration (ppm-c)	• Component ID • Video time • Operator Initials	• Component ID • Measurement Time • Sampler Initials • Sampler flow rate (LPM), • Sampler concentration (% as methane), • Sampler emission rate (LPM as methane)

8.0 References

[1] Hayler, William B.; Keever, John M. (2003). American Merchant Seaman's Manual.

[2] US EPA Compilation of Air Pollutant Emission Factors – AP-42 (http://www.epa.gov/ttnchie1/ap42/ch05/final/c05s02.pdf)

[3] CFR Title 40: Part 63 – Subpart Y - National Emission Standards for Marine Tank Vessel Loading Operations (http://www.epa.gov/ttn/atw/marine/marinepg.html)

[4] EPA Method 21 – Determination of Volatile Organic Compound Leaks (http://www.epa.gov/ttnemc01/promgate/m-21.pdf)

[5] United States. Environmental Protection Agency., & United States. Environmental Protection Agency. Enforcement and Compliance Assurance. Leak detection and repair: A best practices guide. [Washington, D.C.]: U.S. Environmental Protection Agency, Office of Enforcement and Compliance Assurance, [2010].

[6] Test/QA Plan for Verification of Leak Detection and Repair Technologies. U.S. EPA Environmental Technology Verification Program, Battelle, Columbus, Ohio, November 2005 (http://nepis.epa.gov/Adobe/PDF/P100EL3T.pdf).

Emission Sources - Maximum Allowable Emission Rates
Permit Numbers 5783 and N57M2

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
B-101	Boiler	NO_x	0.71	3.12
		CO	0.01	0.01
		SO_2	0.01	0.06
		PM	0.19	0.82
		PM_{10}	0.19	0.82
		$PM_{2.5}$	0.19	0.82
		VOC	0.13	0.59
B-102	Boiler	NO_x	0.78	3.39
		CO	0.01	0.01
		SO_2	0.01	0.06
		PM	0.19	0.82
		PM_{10}	0.19	0.82
		$PM_{2.5}$	0.19	0.82
		VOC	0.13	0.59
B-103	Boiler	NO_x	0.53	2.30
		CO	0.31	1.36
		SO_2	0.01	0.06
		PM	0.19	0.82
		PM_{10}	0.19	0.82
		$PM_{2.5}$	0.19	0.82
		VOC	0.13	0.59
B-104	Boiler	NO_x	0.55	2.41

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
		CO	0.50	2.19
		SO_2	0.01	0.06
		PM	0.19	0.82
		PM_{10}	0.19	0.82
		$PM_{2.5}$	0.19	0.82
		VOC	0.13	0.59
B-201	Boiler	NO_x	0.27	---
		CO	0.07	---
		SO_2	0.01	---
		PM	0.09	---
		PM_{10}	0.09	---
		$PM_{2.5}$	0.09	---
		VOC	0.07	---
B-202	Boiler	NO_x	0.23	---
		CO	0.24	---
		SO_2	0.01	---
		PM	0.09	---
		PM_{10}	0.09	---
		$PM_{2.5}$	0.09	---
		VOC	0.07	---
B-203	Boiler	NO_x	0.26	---
		CO	0.13	---
		SO_2	0.01	---
		PM	0.09	---

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
		PM_{10}	0.09	---
		$PM_{2.5}$	0.09	---
		VOC	0.07	---
B-204	Boiler	NO_x	0.20	---
		CO	0.06	---
		SO_2	0.01	---
		PM	0.09	---
		PM_{10}	0.09	---
		$PM_{2.5}$	0.09	---
		VOC	0.07	---
B-201/2/3/4	Boilers 201, 202, 203, and 204 Annual Cap	NO_x	---	3.39
		CO	---	1.78
		SO_2	---	0.10
		PM	---	1.29
		PM_{10}	---	1.29
		$PM_{2.5}$	---	1.29
		VOC	---	0.94
B-105	Boiler	NO_x	0.26	1.14
		CO	0.08	0.35
		SO_2	0.01	0.03
		PM	0.09	0.40
		PM_{10}	0.09	0.40
		$PM_{2.5}$	0.09	0.40
		VOC	0.07	0.29

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
B-106	Boiler	NO_x	0.26	1.14
		CO	0.07	0.31
		SO_2	0.01	0.03
		PM	0.09	0.40
		PM_{10}	0.09	0.40
		$PM_{2.5}$	0.09	0.40
		VOC	0.07	0.29
B-107	Boiler	NO_x	0.24	1.03
		CO	0.05	0.23
		SO_2	0.01	0.03
		PM	0.09	0.40
		PM_{10}	0.09	0.40
		$PM_{2.5}$	0.09	0.40
		VOC	0.07	0.29
B-108	Boiler	NO_x	0.24	1.03
		CO	0.07	0.30
		SO_2	0.01	0.03
		PM	0.09	0.40
		PM_{10}	0.09	0.40
		$PM_{2.5}$	0.09	0.40
		VOC	0.07	0.29
T20-1	Fixed Roof (FR) Tank	VOC	11.71	---
T20-2	FR Tank	VOC	11.71	---
T20-3	FR Tank	VOC	11.71	---

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
T20-4	FR Tank	VOC	11.71	---
T30-1	FR Tank	VOC	11.71	---
T30-2	FR Tank	VOC	11.71	---
T80-1	FR Tank	VOC	35.14	---
T80-2	FR Tank	VOC	35.14	---
T80-3	FR Tank	VOC	35.14	---
T80-4	FR Tank	VOC	35.14	---
T80-5	FR Tank	VOC	35.14	---
T80-6	FR Tank	VOC	35.14	---
T80-7	FR Tank	VOC	35.14	---
T80-8	FR Tank	VOC	35.14	---
T80-9	FR Tank	VOC	35.14	---
T80-10	FR Tank	VOC	35.14	---
T80-11	FR Tank	VOC	35.14	---
T80-12	FR Tank	VOC	35.14	---
T80-13	FR Tank	VOC	35.14	---
T80-14	FR Tank	VOC	35.14	---
T80-15	FR Tank	VOC	35.14	---
T80-16	FR Tank	VOC	35.14	---
T80-17	FR Tank	VOC	35.14	---
T80-18	FR Tank	VOC	35.14	---
T80-19	FR Tank	VOC	35.14	---
T80-20	FR Tank	VOC	35.14	---
T80-21	FR Tank	VOC	35.14	---

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
T80-22	FR Tank	VOC	35.14	---
T80-23	FR Tank	VOC	35.14	---
T80-24	FR Tank	VOC	35.14	---
T80-25	FR Tank	VOC	35.14	---
T80-26	FR Tank	VOC	35.14	---
T80-27	FR Tank	VOC	35.14	---
T80-28	FR Tank	VOC	35.14	---
T80-29	FR Tank	VOC	35.14	---
T80-30	FR Tank	VOC	35.14	---
T80-31	FR Tank	VOC	35.14	---
T80-32	FR Tank	VOC	35.14	---
T80-33	FR Tank	VOC	35.14	---
T80-34	FR Tank	VOC	35.14	---
T80-35	FR Tank	VOC	35.14	---
T80-36	FR Tank	VOC	35.14	---
T80-37	FR Tank	VOC	35.14	---
T80-38	FR Tank	VOC	35.14	---
T175-1	FR Tank	VOC	46.86	---
T175-2	FR Tank	VOC	46.86	---
T175-3	FR Tank	VOC	46.86	---
T175-4	FR Tank	VOC	46.86	---
T200-1	FR Tank	VOC	58.57	---
T200-2	FR Tank	VOC	58.57	---
T200-3	FR Tank	VOC	58.57	---

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
T200-4	FR Tank	VOC	58.57	---
T200-5	FR Tank	VOC	58.57	---
T200-6	FR Tank	VOC	58.57	---
T200-7	FR Tank	VOC	58.57	---
T200-8	FR Tank	VOC	58.57	---
T200-9	FR Tank	VOC	58.57	---
T250-5	FR Tank	VOC	58.57	---
T250-6	FR Tank	VOC	58.57	---
T250-7	FR Tank	VOC	58.57	---
T250-8	FR Tank	VOC	58.57	---
TTRC-1	T/T Load	VOC	3.07	---
TTRC-2	T/T Load	VOC	4.80	---
SOURCE GROUP TOTAL (VOC) (6)				**57.20**
T30-3	FR Tank	VOC	23.43	---
T30-4	FR Tank	VOC	23.43	---
T30-5	FR Tank	VOC	23.43	---
T30-6	FR Tank	VOC	23.43	---
T250-1	Internal Floating Roof (IFR) Tank	VOC	11.52	---
T250-2	IFR Tank	VOC	11.88	---
T250-3	IFR Tank	VOC	11.43	---
T250-4	IFR Tank	VOC	11.43	---
T250-9	IFR Tank	VOC	10.27	---
T250-10	IFR Tank	VOC	10.27	---
T250-11	IFR Tank	VOC	10.27	---

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
T250-12	IFR Tank	VOC	10.27	---
T250-13	IFR Tank	VOC	10.27	---
T250-14	IFR Tank	VOC	10.27	---
T266-1	IFR Tank	VOC	11.24	---
T266-2	IFR Tank	VOC	11.24	---
T325-1	FR Tank	VOC	46.86	---
T325-2	IFR Tank	VOC	11.84	---
T400-1	IFR Tank	VOC	11.13	---
T400-2	IFR Tank	VOC	11.13	---
T400-3	IFR Tank	VOC	11.13	---
T400-4	IFR Tank	VOC	11.13	---
T400-5	IFR Tank	VOC	11.13	---
T400-6	IFR Tank	VOC	9.39	---
T400-7	IFR Tank	VOC	11.13	---
T400-9	IFR Tank	VOC	11.13	---
T400-10	IFR Tank	VOC	11.13	---
T400-11	IFR Tank	VOC	8.29	---
T400-12	IFR Tank	VOC	8.29	---
T400-13	IFR Tank	VOC	8.29	---
SOURCE GROUP TOTAL (VOC) (7)				**145.55**
T3-1	FR Tank	VOC	0.11	0.02
T10-1	FR Tank	VOC	1.15	0.02
T11-1	FR Tank	VOC	0.01	0.01
T13-1	FR Tank	VOC	1.15	0.02

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
T13-2	FR Tank	VOC	1.15	0.02
T30-11	FR Tank	VOC	7.73	0.77
T30-12	FR Tank	VOC	7.73	0.77
T30-13	FR Tank	VOC	7.73	0.77
T30-14	FR Tank	VOC	12.45	0.67
T30-15	FR Tank	VOC	12.45	0.67
T30-16	FR Tank	VOC	12.45	0.67
T30-17	FR Tank	VOC	12.45	0.67
T30-18	FR Tank	VOC	12.45	0.67
T30-19	FR Tank	VOC	12.45	0.67
T37-1	FR Tank	VOC	0.85	0.05
T37-2	FR Tank	VOC	0.85	0.05
T38-1	FR Tank	VOC	5.70	0.24
T90-1	FR Tank	VOC	0.74	0.16
T90-2	FR Tank	VOC	0.74	0.16
T95-1	FR Tank	VOC	12.45	2.14
T95-2	FR Tank	VOC	12.45	2.14
T100-1	FR Tank	VOC	12.45	0.85
T100-2	FR Tank	VOC	12.45	0.85
T100-3	FR Tank	VOC	12.45	2.24
T100-4	FR Tank	VOC	12.45	2.24
T100-5	FR Tank	VOC	0.09	0.17
T100-6	FR Tank	VOC	0.09	0.17
T100-7	FR Tank	VOC	0.09	0.17

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
T100-8	FR Tank	VOC	0.09	0.17
T100-9	FR Tank	VOC	0.09	0.17
T100-10	FR Tank	VOC	0.09	0.17
T100-11	FR Tank (8)	VOC	0.09	0.17
T100-12	FR Tank (8)	VOC	0.09	0.17
T100-13	FR Tank	VOC	0.09	0.10
T100-14	FR Tank	VOC	0.09	0.10
T100-15	FR Tank	VOC	0.09	0.10
T100-16	FR Tank	VOC	0.09	0.10
T100-17	FR Tank	VOC	0.09	0.10
T100-18	FR Tank	VOC	0.09	0.10
T100-19	FR Tank	VOC	0.09	0.10
T100-20	FR Tank	VOC	0.09	0.10
T100-21	FR Tank	VOC	3.11	2.09
T100-22	FR Tank	VOC	3.11	2.09
T100-23	FR Tank	VOC	3.11	2.09
T100-24	FR Tank	VOC	3.11	2.09
T100-25	FR Tank	VOC	0.74	0.10
T220-1	FR Tank	VOC	1.83	0.40
W30-1	FR Tank	VOC	12.45	0.25
W30-2	FR Tank	VOC	12.45	0.25
SHIPLD-1	Ship Dock 1	VOC	13.97	---
SHIPLD-2	Ship Dock 2	VOC	13.97	---
SHIPLD-3	Ship Dock 3	VOC	13.97	---

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
SHIPLD-1/2/3	Combined Ship Dock 1,2, and 3 Cap	VOC	----	5.49
SHIPLD-1C	Ship Dock 1 Crude Oil	VOC	15.56	---
SHIPLD-2C	Ship Dock 2 Crude Oil	VOC	15.56	---
SHIPLD-3C	Ship Dock 3 Crude Oil	VOC	15.56	---
SHIPLD-1/2/3C	Combined Ship Dock 1,2, and 3 Crude Oil Loading Cap	VOC	31.12	20.99
SHIPLD-4	Ship Dock 4	VOC	0.98	1.05
BRGDK-2	Barge Dock 2	VOC	0.53	1.32
BRGDK-3	Barge Dock 3	VOC	0.53	2.63
BRGDK-4	Barge Dock 4	VOC	0.53	0.66
BRGDK-5	Barge Dock 5	VOC	0.53	2.63
BRGDK-6	Barge Dock 6	VOC	5.81	2.25
BRGDK-7	Barge Dock 7	VOC	1.76	0.75
TTRC-3	T/T R/C Load	VOC	6.97	1.05
FU-4	Fugitive Area	VOC (5)	0.49	2.14
FU-5	Crude Oil Fugitive Area	VOC (5)	0.04	0.16
TANKMSS-C	Controlled Tank MSS	VOC	26.47	0.40
VCU-1	VCU-1	VOC	1.55	---
		NO_x	4.92	---
		CO	4.92	---
		SO_2	0.26	---
		PM	3.20	---
		PM_{10}	3.20	---
		$PM_{2.5}$	3.20	---

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
VCU-2	VCU-2	VOC	1.55	---
		NO_x	4.92	---
		CO	4.92	---
		SO_2	0.26	---
		PM	3.20	---
		PM_{10}	3.20	---
		$PM_{2.5}$	3.20	---
VCU-3	VCU-3	VOC	1.55	---
		NO_x	4.92	---
		CO	4.92	---
		SO_2	0.26	---
		PM	3.20	---
		PM_{10}	3.20	---
		$PM_{2.5}$	3.20	---
VCU-4	VCU-4	VOC	1.55	---
		NO_x	4.92	---
		CO	4.92	---
		SO_2	0.26	---
		PM	3.20	---
		PM_{10}	3.20	---
		$PM_{2.5}$	3.20	---
VCU - 1/2/3/4	Combined VCU 1, 2, 3, 4 Cap	VOC	6.19	4.18
		NO_x	19.66	11.42
		CO	19.66	14.27

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
		SO_2	1.02	0.32
		PM	12.78	9.68
		PM_{10}	12.78	9.68
		$PM_{2.5}$	12.78	9.68

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) The following EPNs are included in the annual cap of 57.20 tpy: T20-1 through T20-4, T30-1, T30-2, T80-1 through T80-38, T175-1 through T175-4, T200-1 through T200-9, T250-5 through T250-8, TTRC-1, and TTRC-2.
(7) The following EPNs are included in the annual cap of 145.55 tpy: T30-3 through T30-6, T250-1 through T250-4, T250-9 through T250-14, T266-1, T266-2, T325-1, T325-2, T400-1 through T400-7, T400-9, and T400-11 through T400-13.
(8) The emission rates shown here for these EPNs (T100-11 and T100-12) are superseded by rates authorized in Permit By Rule 30 TAC §106.472, claimed by the applicant in December 2013.

Date: April 26, 2017